MacWEEK

06.05.95 | *The Newsweekly for Macintosh Managers* | VOLUME 9 NUMBER 23

THIS WEEK IN GA

Multimedia and the Internet. See Page 10

Getting equipped for digital video. See Page 14

StudioPro 1.75, which is QuickDraw 3D-compliant, will allow users to create navigable, 360-degree scenes in QuickTime VR and VRML.

Strata builds on QD 3D

By Donna Raskin

Breaking new ground in several dimensions, Strata Inc.'s StudioPro 1.75 will be the first program to fully support Apple's QuickDraw 3D and among the first to take advantage of the multiprocessing architecture developed by DayStar Digital Inc. of Flowery Branch, Ga. (see story below).

StudioPro 1.75, a 3-D modeling and rendering program, is due in August for $1,495. The upgrade will also add the capability to output files in both QuickTime VR and Virtual Reality Markup Language (VRML), a platform-independent 3-D file format developed by the World-Wide Web Organization and Silicon Graphics Inc.

QuickDraw 3D is a system ex-

See Strata, Page 76

DayStar lines up players for multiprocessing API

By Carolyn Said

An impressive roster of graphics application developers, including Adobe Systems Inc., Eastman Kodak Co., Macromedia Inc. and Quark Inc., have lined up to back the multiprocessing architecture developed by DayStar Digital Inc. and endorsed by Apple.

In addition, sources said, DayStar of Flowery Branch, Ga., and Apple are discussing a revision to QuickDraw 3D's interactive renderer to allow it to use multiple processors. This would mean that any application that called on QuickDraw 3D would use multiprocessing transparently.

"Our goal is to make the Mac the predominant multiprocessing platform," said Andrew Lewis, CEO of DayStar. Toward that end, the company last month released an API that is receiving an enthusiastic reception among developers of compute-intensive graphics applications.

"Adobe would have to be brain dead not to support the API," said Bryan Lamkin, senior product manager for Adobe Photoshop. "We are definitely in a position to take advantage of it in several application areas." Lamkin declined to discuss the Mountain View, Calif., company's specific product plans but acknowledged that Pho-

See DayStar, Page 74

NEWSPAPER SECOND CLASS

Apple, Farallon seeing infrared across Mac line

By Robert Hess

When Apple debuts its new PowerBook 190 and 5000 series Aug. 28, it will also roll out the infrared carpet, giving users wireless access to network services and other devices.

Apple will reportedly provide tools to utilize the PowerBooks' infrared port in three ways: network connections, communicating with other infrared-equipped portables and exchanging data with Newtons.

Users who want to connect to the local network will be able to do so through a pocket-size desktop pod that acts as an infrared-LocalTalk bridge. Farallon Computing Inc. will reportedly ship its own version of such a pod at the same time as the release of the new PowerBooks.

The Farallon pod will connect to the ADB port of a desktop Mac for power and the printer port for

See Infrared, Page 76

Viper: Iomega to strike again

Removable media stores 1.3 Gbytes

By David Morgenstern

Iomega Corp. plans to sink its fangs into the high end of the removable-storage market with a new high-capacity drive, codenamed Viper. According to sources, attendees at PC Expo in New York this month will get a look at the drive, which will use a 1-Gbyte hard disk cartridge.

Sources said the 3.5-inch drive, which is slated for release in the third quarter, is expected to carry a price of $575 for an external version and $500 for an internal kit.

Like products from rival SyQuest Technology Inc. of Fremont, Calif., Iomega's drive will use Winchester hard disk cartridges instead of the floppy-based technologies used in Iomega's Bernoulli, floptical and Zip products. Sources said the new 3.5-inch, single-platter, 1-Gbyte cartridges will cost about $100 each.

In addition to higher capacity, the Viper will offer pre-press and

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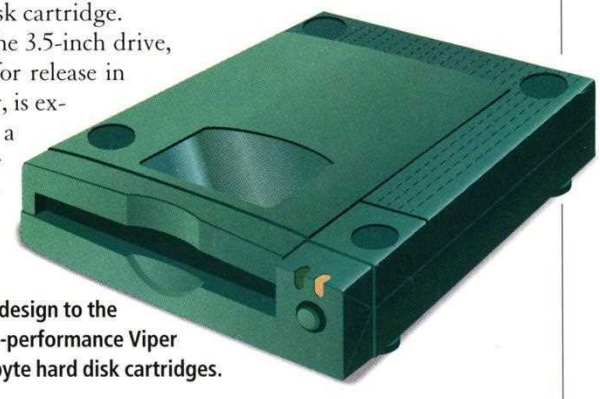

Sporting a similar design to the Zip, Iomega's high-performance Viper drive will use 1-Gbyte hard disk cartridges.

Clones head overseas

Olivetti, Acorn, Goldstar in talks

By Andrew Gore and Jon Swartz

Apple's Mac OS licensing group is calling out around the world, and is close to signing up three foreign clone makers. But it is Power Computing Corp. that may have reason to be dancing in the streets.

With its U.S. licensing efforts under way, Apple is pushing to complete deals with overseas clone makers, sources said. The company is reportedly in serious negotiations with three vendors: Ing. C. Olivetti & Co. SpA, Acorn Computer Group plc and Goldstar Technology Inc.

While Apple is signing up the companies, sources said Power Computing, the first company to ship Mac clones in the United States, stands to profit from the deal. The Milpitas, Calif.-based company will reportedly be the exclusive supplier of logic boards for the trio's first clones, which are expected to start appearing this fall.

As a result, sources said, Mac compatibles from Goldstar, Olivetti and Acorn will be almost identical to Power Computing's U.S. line, although they may differ in CPU

See Clones, Page 76

Future of Now includes PDAs and 3.5 update

By James Staten

Now Software Inc. this month will reportedly ship new versions of its flagship information managers that offer better integration with each other and the Mac OS.

According to sources, Version 3.5 of Now Contact and Now Up-to-Date will feature new drag-and-drop capabilities. In addition, Now of Portland, Ore., will deliver new tools to synchronize the software with Newton PDAs.

The most visible change to the programs, priced at $99 apiece or $149 together, is QuickNote, a

See Now, Page 74

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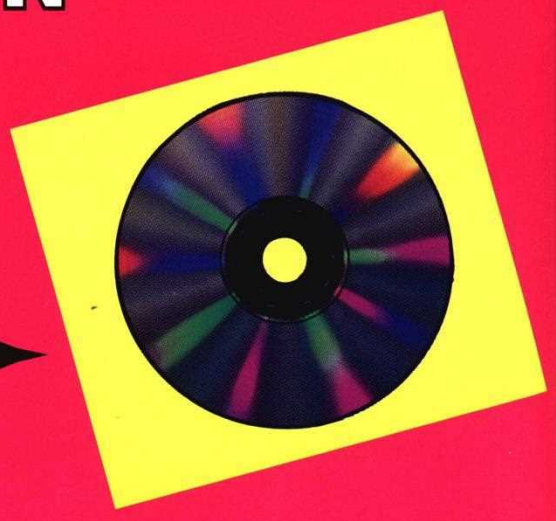

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MacWEEK

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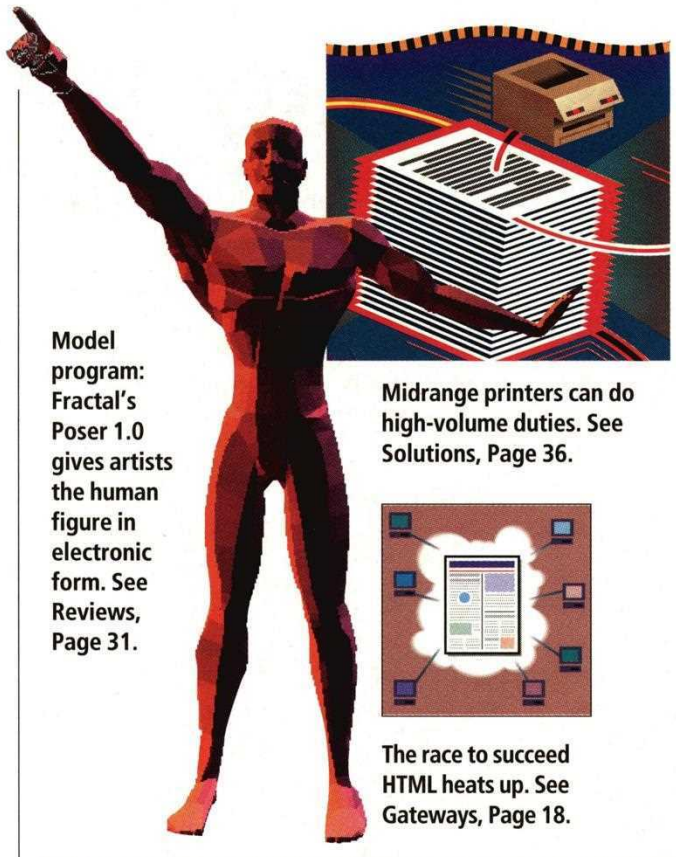

Model program: Fractal's Poser 1.0 gives artists the human figure in electronic form. See Reviews, Page 31.

Midrange printers can do high-volume duties. See Solutions, Page 36.

The race to succeed HTML heats up. See Gateways, Page 18.

Big Bill is watching: Don Crabb reports that beta copies of Windows 95 send information on installed apps to Microsoft. See The Mac Manager, Page 29.

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Fractal Poser 1.0 shapes human forms • Casady & Greene's Snap Mail 2.0.1 offers easy messaging • In Brief: FreeMail 4.0 brings e-mail to the masses

36 SOLUTIONS

High-speed printers can cost you, but 30- to 60-ppm workhorses can do the job without doing a number on your bottom line.

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MACWEEK INSIDER JON SWARTZ

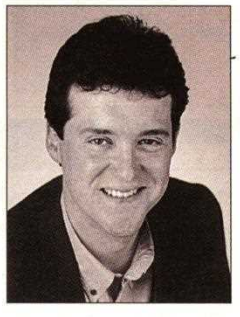
Take me out to the clones

In baseball circles, the Atlanta Braves are generally considered the best team not to win the World Series (strike notwithstanding). Despite an excess of talent, the Braves have consistently come up short in the 1990s.

The Mac market isn't much different from the major leagues. For every company that goes deep, there are several that come maddeningly close year after year, only to make a long, loud out. One of them is Radius Inc.

Until now. Maybe.

After squandering several opportunities over the years, the company now appears ready to break out of its technological slump. Radius has drafted what appears to be the first in what may prove to be a Murderers' Row of industry heavyweights for its clone business and is stepping up to the plate to take some Ruthian swings (see story, Page 4).



Batting in the cleanup position, as MacWEEK has reported, is a major, but still unidentified, player in the industry. From all indications, this company will reach into its deep pockets and bankroll Radius, which desperately needs the cash to underwrite its licensing efforts.

Hitting in the spot behind the investor will be the world's largest distributor, Ingram Micro Inc. The company, which supplies hardware and software to thousands of dealers nationwide, will announce an exclusive agreement with Radius to deliver the full clone lineup — from mainstream business machines to high-end publishing systems — directly to retailers. Most dealers have been griping for months about the lack of Mac-compatible clones available in the channel.

The one alternative to Apple, Power Computing Corp., so far has completely abandoned dealers. More than one dealer has complained that the company won't even return their phone calls.

By leveraging the dealer channel, this emerging alliance may hit a home run. Not only will users get a solid product with broad service and support, but there should be a ready supply of machines for the channel. (Are you listening, Apple?)

The possibilities are dizzying; it could even inflate Radius CEO Chuck Berger's already blustery braggadocio. But before we name Berger "CEO of the Year" a reality check is in order. The Radius all-star clone team could end up like Michael Jordan's embarrassing detour into baseball.

Radius has drafted a Murderers' Row of industry hitters for its clone business.

Building more than 100,000 clones a year will undoubtedly put a strain on Radius' margins; it's extremely doubtful the company can win a war of margins with Apple, which boasts one of the industry's most efficient manufacturing processes.

If the margins don't squeeze Radius, the task of revamping a company's business model could. Radius is already in the midst of a yearlong work-force reduction, and the major transition to a new product line will put additional pressure on its operations.

It also faces an Apple licensing juggernaut; the company is reportedly signing deals with Acorn Computer Group plc, Goldstar Technology Inc. and Ing. C. Olivetti & Co. SpA (see story, Page 1).

On top of all that, Radius' problems run even deeper. Despite its insider status among Mac developers, Radius historically hasn't taken advantage of the inside track. Let us count the wayward ways.

The Rocket multiprocessing card misfired, to the point that DayStar Digital Inc. is now the dual-processing vendor of choice for Apple; ATI Technologies Inc., not Radius, became the darling of Apple's PCI video plans; the wildly successful Pivot display was shipped off to Portrait Display Labs Inc.; and SkyLab, Radius' first effort to clone the Mac, never got off the ground.

If that doesn't give reason to pause, consider this: Radius was an early licensee of Mac ROMs, QuickDraw and Rocket cards, and it hardly blazed a trail marketing those technologies.

Will clones be different? Maybe. Because this time Radius may have a winning team. □

Jon Swartz is MacWEEK senior news editor/Business. He welcomes feedback at jon_swartz@macweek.ziff.com.

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New NetWare strategy

Novell to wait on RISC version

By Mark Hall

Novell Inc. and Apple have finalized their plans to push NetWare for PowerPC into the market. One of their options could be to have Apple resell the network operating system under its own brand name.

Last week officials from both companies clarified their licensing pact for the version of NetWare they are co-developing. Novell of Provo, Utah, said it will not market NetWare for PowerPC until servers based on the Common Hardware Reference Platform (CHRP) specification become widely available in late 1996. For the first year, therefore, Apple will be the sole provider of the RISC-based NetWare, which will be released this fall to run on its Workgroup Servers.

Once NetWare for PowerPC ships, Apple has the right to package it in the same way that Compaq Computer Corp. sells SmartStart, which includes NetWare and other server software with tools to ease installation.

Apple's involvement goes beyond that of repackager. Apple holds the key to NetWare on CHRP because the company is writing the low-level drivers that NetWare requires to run on the PowerPC. CHRP vendors who license NetWare from Novell will need to license the Apple drivers or write equivalent PowerPC drivers themselves, an unlikely scenario.

This double licensing requirement should disappear soon after CHRP appears, said Bill Mason, Novell director of partner marketing. "From a marketing perspective, as CHRP becomes a volume platform it would make sense for Novell to provide all the necessary software in a single box."

Harry Vitelli, NetWare for PowerPC product manager at Apple, concurred. "The business model we're working under right now has Novell as the master distributor, just as they are today for NetWare on Intel," Vitelli said. □

Don't look back: A history of Dylan

LATE 1980s	SPRING 1992	JUNE 1994	SPRING 1995	MAY 1995
Apple begins investigation of new language	First Dylan reference book published; language unveiled to developers	Dylan Interim Reference Manual published; it is updated several times through 1995	Early Dylan, first 680x0-based version, due; final Dylan spec expected	Current Dylan environment scrapped; language project to continue

Apple changes its tune, decides to rewrite Dylan

By Robert Hess

Apple is learning that the road to a better programming language is rockier than it expected and includes some false turns. The company has stopped development on its Dylan environment and will start over, almost from scratch.

Apple said the planned tools for its Dylan dynamic language, which was designed to improve programmer productivity, did not meet the needs of developers.

The Dylan environment and language were designed to meet a far-reaching set of goals, including automatic memory management, powerful exception handling and runtime type checking. Apple had said a final version of the 680x0-only environment, called Early Dylan, was due in the first quarter of this year (see MacWEEK, July 11, 1994, Page 1). However, sources said, the project progressed very slowly, so its management team recently decided to make big changes.

To a large degree, the company is now starting over with its Dylan environment, abandoning much of the work to date. Apple has not announced a revised schedule for its release. The Dylan language specification remains unaltered, but Apple's environment for using it has been effectively scrapped.

Apple reportedly found that developers today desire a cross-platform language tuned for teams of programmers. Apple had been relying on other companies to create Unix and Windows versions and was aiming Dylan at individuals.

Sources said Apple also decided to relocate the language effort from Cambridge, Mass., to Cupertino, Calif. As a result, sources said, most of the current Dylan development team will quit. Nonetheless, Apple stands by the project. Peter Christy, manager of Apple's Development Products Group, said, "We are investing more effort in Dylan than in all other OpenDoc tools combined." □

Ingram-Radius deal hints at retail clones

By Mark Hall

Ingram Micro Inc. and Radius Inc. this week will announce that beginning July 1, Ingram has the exclusive rights to distribute all Radius' Mac-compatible systems for the next two years.

Although the deal includes the $12,000 System 100 clone, sources said Santa Ana, Calif.-based Ingram is primarily interested in selling as-yet-unannounced, low-end Mac clones for the retail channel.

Ingram reportedly is committed to a "broadened Radius systems line that will come in multiple flavors," a source said, and has appointed Santa Dutta as executive vice president and general manager, solely dedicated to the Radius Macintosh business. The new clones will reportedly be available this summer.

Unlike the System 100 machines (see MacWEEK, March 27, Page 1), which the Sunnyvale, Calif.-based Radius is aiming at pre-press users, the prospect of lower-end clones offers the high volumes necessary to attract Ingram to the Radius product line. "The company has committed to Ingram that once full manufacturing was on-line, the company's new manufacturing program would meet distributor demand," a source said.

No other master distributor will be able to sell Radius systems until July 1997. Radius peripherals, however, such as NuBus and PCI cards, will continue to be available through other distributors.

"We've been after Radius to build a low-cost Mac clone to help pump up volume," one retailer said, speaking on condition of anonymity. "Power Computing [Corp.] has burned the retail channel. They won't give us the time of day."

According to Pieter Hartsook, editor of The Hartsook Letter in Alameda, Calif., "It makes sense for Ingram to have an exclusive deal with Radius until [Common Hardware Reference Platform] hits." Thanks to additional points of purchase provided by Ingram, Hartsook said he may raise his forecast of Radius clones sold in 1995 by 50 percent.

Radius declined to comment. □

ArchiCAD update draws on QT VR

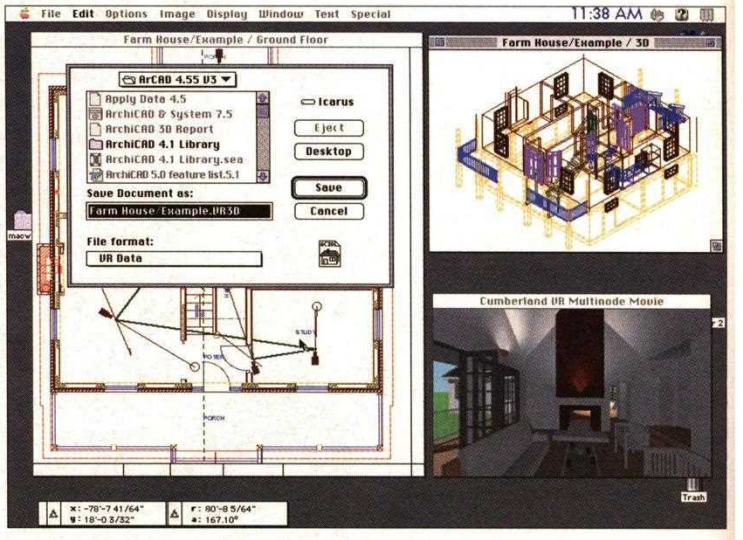
By Cate C. Corcoran

Graphisoft U.S. Inc. this week plans to show architects attending the A/E/C Systems '95 expo in Atlanta a new way to create model homes without wood, nails or builders.

By integrating Apple's QuickTime VR technology into its $4,995 ArchiCAD for the Mac, Graphisoft will let users create 360-degree, panoramic, navigable walk-throughs of buildings and other projects created in the CAD application.

Slated to ship later this month, the QuickTime VR-capable version of ArchiCAD for the Mac will include an extension to the application that will save projects as VR data. Users will designate views and walk-through paths with ArchiCAD's Camera tool.

A stand-alone application, VR Maker, will transform the data file into multinode, rendered QuickTime VR scenes that can be played on Apple's QuickTime VR player for Macintosh or Windows.



Graphisoft will let users of ArchiCAD save files as VR data (upper left) and translate the data into interactive, panoramic walk-throughs (lower right).

Graphisoft said a fully rendered room in VR format will take up about 160 Kbytes of storage space when created at 320 by 240 pixels.

Pricing on the upgrade has not been set.

Graphisoft U.S. Inc. of South San Francisco, Calif., can be reached at (415) 737-8665 or (800) 344-3468; fax (415) 871-5481. □

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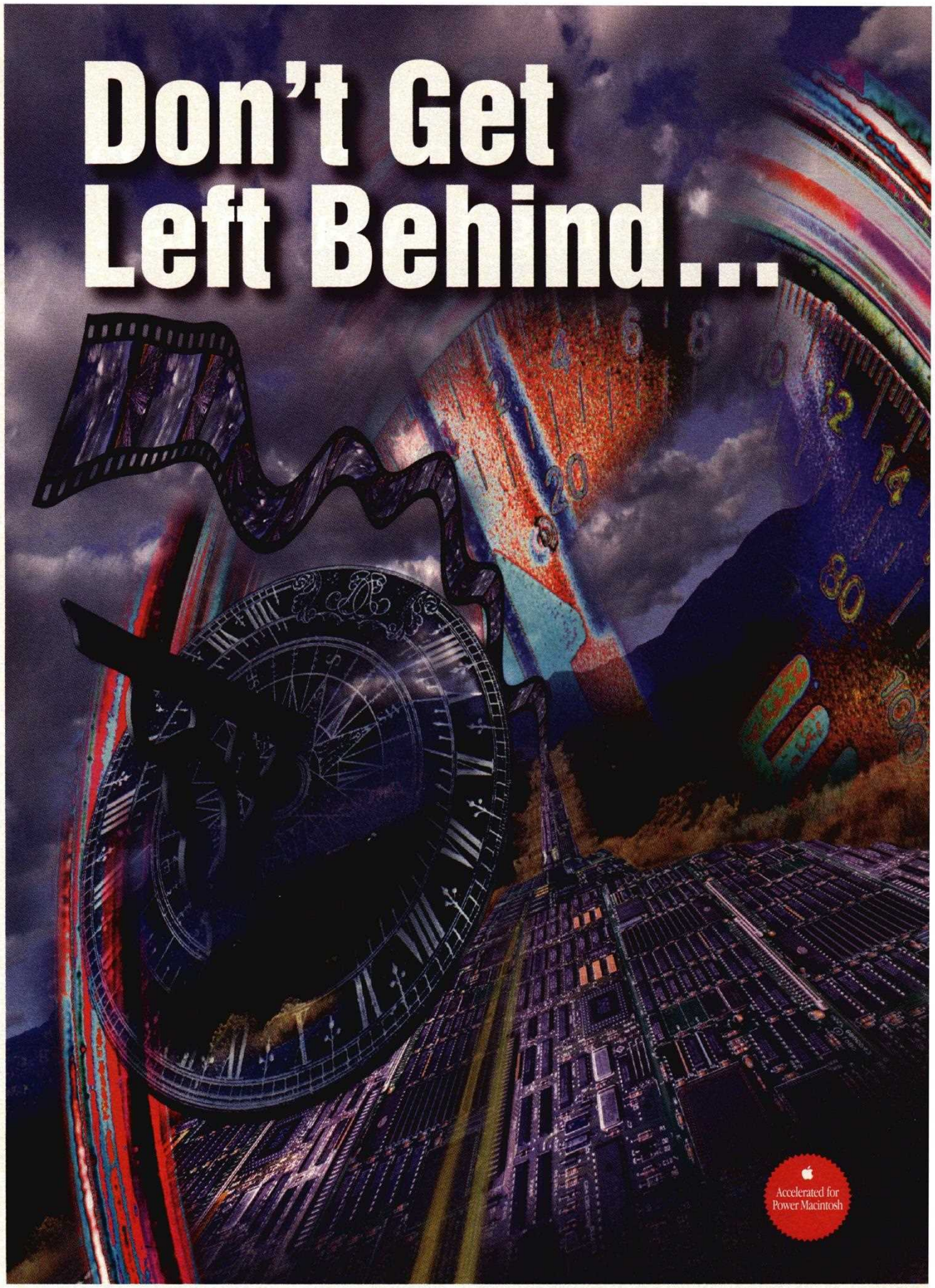

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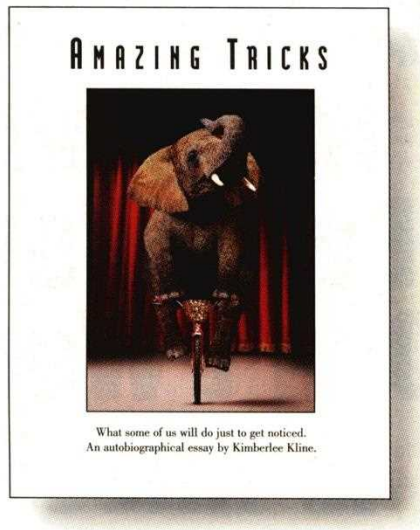

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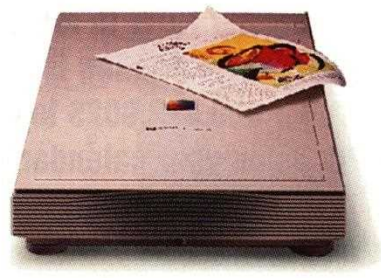

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IDE marches on for Mac

Vendors offer hardware, drives

By David Morgenstern

Despite mixed messages from Apple, Mac vendors are pushing ahead with hardware and software support for IDE drives. According to storage companies, mobile users will have access to higher capacities and performance by year-end.

The PowerBook 150 and the popular line of 630 desktop models are the Macs using internal IDE, or Integrated Drive Electronics, drives, which were introduced last year. According to sources, new PowerBook models, code-named M2, Omega and AJ, which are slated for a fall release, will also use IDE drives (see MacWEEK, March 6, Page 28).

However, sources said, all of Apple's forthcoming PCI-based desktop models, including the entry-level Catalyst line, will instead use an internal SCSI drive. Clone maker Power Computing Corp. of Milpitas, Calif., said its first PCI Macs "will have SCSI on the radar," and IDE support will wait for its Common Hardware Reference Platform designs.

Although storage hardware and software companies praised the stability of Apple's Enhanced IDE chip set and ROM-based driver, the move from SCSI to multiple interfaces has not been effortless. Some hardware vendors worried that two lines of drives might confuse customers. And while third-party vendors said they have considerable expertise in SCSI, they are playing catch-up with IDE.

"When Apple changes the rules, we've got to follow," said John Catalano, president of Casa Blanca Works Inc. of Greenbrae, Calif., which recently added IDE to its utility. "A 'universal' package has to run on all Macs."

Apple's IDE formatter supports only a single partition and does not include password protection, locking volumes and automount settings.

Some developers are offering users the features found in SCSI drives. In addition to Casa Blanca Works' Drive7, Ontrack Computer Systems Inc.'s Disk Manager Mac 4.0 and CharisMac Engineering Inc.'s Anubis Professional support IDE. Software Architects Inc. said it will not add IDE to its utility line until early 1996, and FWB Inc. expects a fourth-quarter release for an IDE-savvy version of its Hard Disk Toolkit.

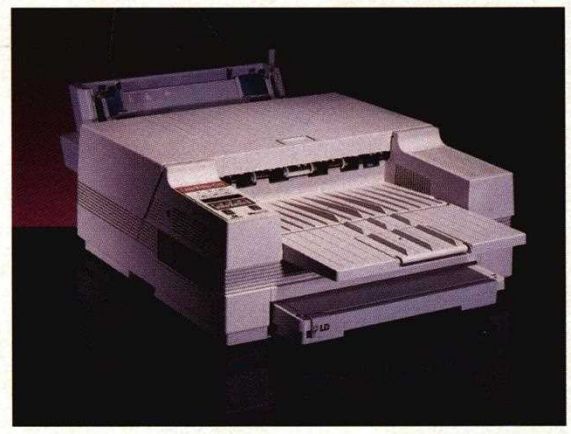
On the hardware front, vendors have focused their efforts on replacements for 2.5-inch PowerBook IDE drives.

"We're seeing the handwriting on the wall for 2.5-inch SCSI drives," said Paul McGraw, vice president at APS Technologies Inc. of Kansas City, Mo. "The good news is higher capacities; the bad news is they won't be SCSI."

Analysts said that most new 2.5-inch drives will use Fast ATA-2 (AT attachment) or Enhanced IDE interfaces. They said the new devices will aid Apple by expanding the number of manufacturers from which it can purchase products. Last week, Intégral Peripherals Inc. unveiled new 720-Mbyte and 1-Gbyte drives, and Quantum Corp. showed new 810-Mbyte and 1-Gbyte mechanisms.

Although the PowerBooks' Enhanced IDE controller can take greater advantage of speed increases in new drives than SCSI could, vendors said the aftermarket sales of replacement drives are limited by the Mac's support of only a single IDE mechanism.

According to McGraw, IDE drives sold for Macs are true replacement units, unlike SCSI drives, which users can place in external enclosures and continue to use with their systems. He said APS will offer a line of IDE drives to Mac users later this year. □



Raising the roof on resolution: Xante's LaserPress 1800, based on a new TEC engine, can print full-bleed tabloid-size images at up to 1,800 by 1,800 dpi.

Xante laser handles big pages, 1,800 dpi

By Matthew Rothenberg

Xante Corp. last week extended the scope of its laser printer line with a new model the company said can print full-bleed tabloid-size pages at up to 1,800 by 1,800 dpi.

Xante said the LaserPress 1800, slated to ship in June for $8,495, is based on a new 8-page-per-minute engine from Tokyo Electric Co. Ltd. that outputs sheets measuring up to 12 by 19 inches. The printer will come standard with 48 Mbytes of RAM, which can be expanded to 128 Mbytes. In the basic configuration, it can print letter- or tabloid-size pages at 1,800 by 900 or 900 by 900 dpi, respectively. Users who upgrade to 96 Mbytes of RAM can print oversize pages at 1,800 by 1,800 dpi, Xante said.

The printer includes Adobe PostScript Level 2 and 35 Type 1 fonts, and it offers Xante's proprietary halftone-calibration technology, which lets users adjust the gamma curves of gray-scale images from the printer's front panel.

The LaserPress 1800 offers simultaneously active LocalTalk, Centronics parallel and RS-232 serial interfaces as well as a SCSI port for a hard disk. An Ethernet interface that supports EtherTalk and TCP/IP will cost $395.

The printer runs on a 33-MHz AMD 29030 RISC processor. It will ship with a 250-sheet universal paper cassette and a 150-sheet feeder. An additional 250-sheet cassette with feeder will be available for $495.

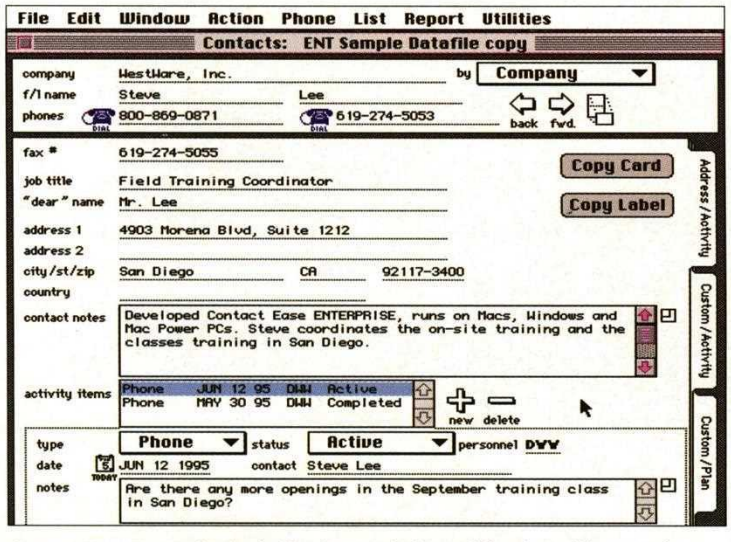
Xante Corp. of Mobile, Ala., can be reached at (334) 476-8189 or (800) 926-8839; fax (334) 476-9421. □

Contact Ease spans platforms

By James Staten

WestWare Inc.'s client-server sales-automation system will ship next week, nearly a year after it was announced.

Contact Ease Enterprise, which runs on Macs, Power Macs and Windows machines, was developed using Blyth Software Inc.'s Omnis 7 database and is based on the company's Contact Ease information manager. The Enterprise version lets users connect with an Omnis server or any corporate SQL, Sybase or Oracle database. Through support for Apple events and AppleScript, it can communicate with applications such as e-mail packages, calendar programs, inventory managers and Lotus Development Corp.'s Notes.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Custom/Plan

Contact Ease Enterprise looks like its stand-alone sibling but adds a word processor and connectivity with any corporate SQL, Sybase or Oracle database.

The program lets users create sales plans and offers call-logging and reminders functions. It also features an integrated word processor, the company said.

In addition, the software includes a remote reconciliation capability that transmits changes only between the client and server.

Contact Ease Enterprise is priced at $550 per user; until Sept. 30, users who purchase a $75-per-user annual maintenance contract can buy it for $179 a seat.

A Unix version of Contact Ease Enterprise is expected in the fall, WestWare said.

WestWare Inc. of San Diego can be reached at (619) 274-5053 or (800) 869-0871; fax (619) 274-5055; westware1@aol.com. □

Paralan extends SCSI reach

By David Morgenstern

Paralan Corp. will pave data pathways this summer with the release of RegeneratoR SCSI cable extenders.

Each self-powered unit will extend single-ended, or Fast and Fast and Wide SCSI-2, buses 19.8 feet; a $695 differential SCSI model, now available, adds 82.5 feet. The company said users can combine additional units to span greater stretches.

Expected to be released next month, the Fast SCSI-2 SIR-S8 will cost $189. Currently unpriced, the Fast and Wide SCSI-2 SIR-S16 is slated to ship in the third quarter.

Paralan said for short distances the new devices provide cost savings over the company's current line of $475 single-ended-to-differential converters as well as the $995 coaxial and $1,360 optical-fiber cable parallel-to-serial SCSI expanders that require a pair of units per system.

RegeneratoR's circuitry provides isolation, or hot-plug capability, to devices connected downstream, permitting the addition or removal of devices without requiring a system shutdown.

Single-ended RegeneratoR devices provide active termination and handle termination difficulties when mixing Fast and Fast and Wide devices, Paralan said.

The company said it will also offer internal RegeneratoR daughtercards for use with hard drives and arrays.

Paralan Corp. of San Diego can be reached at (619) 560-7266; fax (619) 560-8929. □

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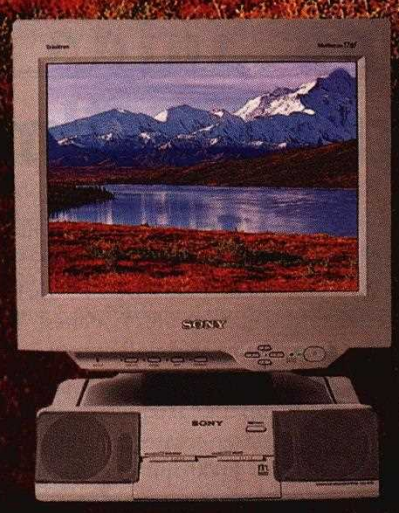

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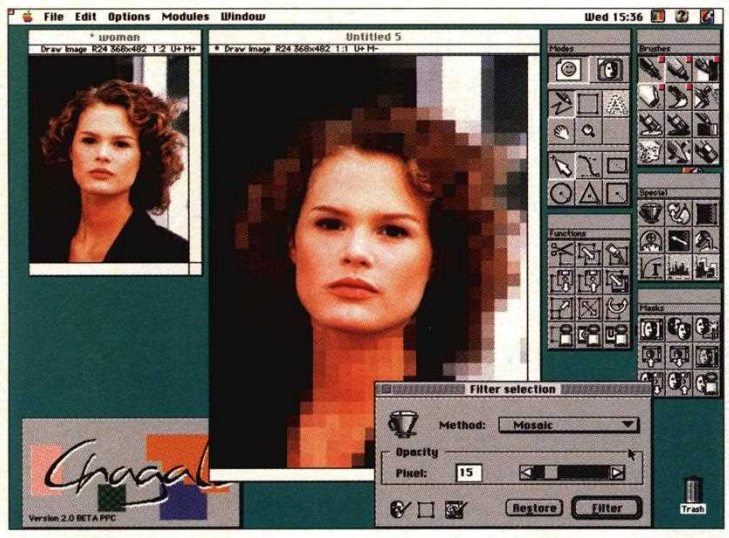


Technosystems' image-editing and paint application will include an eight-bit mask function, which lets users apply a filter to a specified part of an image.

App edits images on low-end Macs

By Cate C. Corcoran

Users with limited budgets or limited RAM can still test their artistic abilities with Chagall, a forthcoming image-editing and paint application from European software developer Technosystems USA.

Slated to ship in August for $299, Chagall will let users with as little as 3 Mbytes of free RAM take advantage of eight-bit masking, color correction and custom paint functions.

Technosystems USA plans to include paint tools, such as resizable brushes with variable opacity, and image-editing features, such as a densitometer and compatibility with Adobe Photoshop-plug-ins.

The program's eight-bit mask capabilities will let users create a mask with Paint Brush tools, selection tools or the Magic Wand, and then apply effects, such as color changes, image importation, inversion or selective application of filters.

Unlike many image-editing applications, when users change the color look-up tables for an image, Chagall will alter only the image's colors without affecting the user's display.

Multiple open windows will be able to have different color look-up tables.

An Update Undo function will let users choose a state that their image will quickly revert to when Undo is selected.

Chagall will ship in versions for both Power Macs and 680x0-based Macs.

Technosystems USA of Radcliff, Ky., can be reached at (502) 351-0108; fax (502) 352-2180. □

Warming up in ICEfields

By Donna Raskin

To print higher-quality photographs, many publishers are turning to stochastic screening as an alternative to the halftone process. The latest product to compete for their attention is ICEfields, Mac-based stochastic screening software available now for $1,250.

Stochastic, or frequency modulation, screening varies the number of dots representing different color intensities, as opposed to halftoning, which varies the dot size.

ICEfields, published by The Color Partnership, creates more-accurate highlights, shadows and midtones, as well as eliminates moirés, according to the company. Stochastic screening can be

See ICEfields, Page 12

Netscape will put Director into browser

By Cate C. Corcoran

Hoping to launch multimedia produced in Director off the desktop and out into cyberspace, Macromedia Inc. this week announced an agreement with Netscape Communications Corp. that may signal the decline of helper applications.

Macromedia said the two companies have agreed to incorporate Shockwave, the playback technology for Director, into future versions of the Netscape Navigator World-Wide Web browser. A version of Netscape Navigator slated for a fall release will let Director movies play from their own windows within a Web page, obviating the need for external helper applications.

Macromedia said it expects that as widespread higher bandwidth increases, larger files and eventually entire titles will be accessible from the Web.

Macromedia said examples of the new technology will be on display this week at http://www.macromedia.com and that users will be able to view them as soon as Netscape makes the Director-capable beta version of Netscape Navigator available for download.

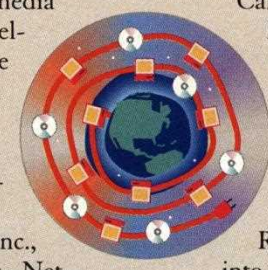
Macromedia Inc. of San Francisco can be reached at (415) 252-2000 or (800) 288-4797; fax (415) 626-1502. □

FOCUS ON MULTIMEDIA

Multimedia, Internet technologies tie knot

By Cate C. Corcoran

With last year's explosion of multimedia titles and this year's mass discovery of the World-Wide Web, the question arises of where these two highly visible technologies will head next. Industry insiders, makers of multimedia tools and title developers agree that the prevalent direction in which multimedia and the Web are moving is toward each other.



Macromedia Inc., Adobe Systems Inc., Netscape Communications Corp. and Sun Microsystems Inc. have all made recent announcements bringing the two areas closer. And it is likely that much of this convergence will take place on the Mac, which remains the multimedia development platform of choice.

One promising way of bringing the Web's up-to-the-minute flexibility to the code-heavy realm of multimedia is by combining desktop CD-ROMs with Web access to enhance or customize the CD user's experience. According to Michael Moon, director of executive programs at Gistics Inc., a research consulting firm in Larkspur, Calif.: "By 1996, the heart, the most attractive, got-to-have-it technology, will reside in what we call 'telemedia' titles. These are CD-ROMs that launch into some predestined place in cyberspace, enhancing the title." Examples of such a hybrid solution include entertainment titles that have a basic animation scene on a disc and get a new setting or animation behaviors from a Web server.

What technologies will succeed HTML for Internet authoring?
See Gateways Focus On, Page 18.

Navigate narrow channels

While multimedia CD-ROMs and the Web share a goal of delivering interactive, rich content, polar contrasts in the two modes of delivery make combining them a challenge. "The Internet

See Focus On, Page 12

PlateJet creates film and plates

By Donna Raskin

Cymbolic Sciences International Inc. last month announced a large-format platesetter, PlateJet, that can handle eight-up signatures of both film and plates.

PlateJet, due in August, is an internal drum machine that outputs aluminum digital plates and film. The $175,000 package will include a Pentium 90-MHz server with 64 MHz of RAM and the company's FireScript software RIP, which is PostScript Level 2 compatible.

The device can image eight-up signatures in three sizes: 16.5 by 18.5 inches, 18.5 by 24.5 inches, and 25.25 by 36.25 inches. The maximum area will output in 3.9 minutes at 2,000 dpi.

PlateJet's frequency-doubled YAG laser creates resolutions of 2,000 or 4,000 dpi. The device features two types of screening technologies, accurate and frequency modulation, and will print seven dot shapes, including round, diamond and rhomboid at 20 to 250 lines per inch. An 8,000-dpi upgrade will also be available; its pricing has not yet been set.

The machine has an automatic film loader and will connect to a Mac via Ethernet or TCP/IP.

PlateJet incorporates the company's FireSetter imagesetter, which is sold separately for $135,000. There is no upgrade path from the FireSetter to the PlateJet.

Cymbolic Sciences International Inc. of Blaine, Wash., can be reached at (360) 332-4054; fax (360) 332-8032. □

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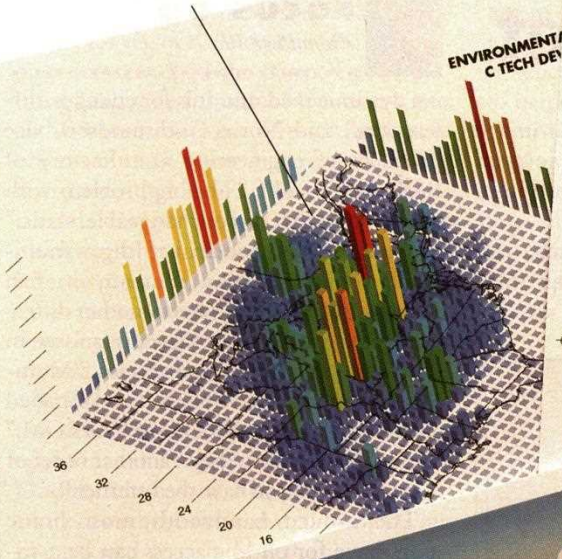

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For example, adding color to a magazine advertisement can increase ad readership 39% over black and white [1]. A newspaper color ad can increase sales 42% compared with the same as in black and white [2]. Executives using decision type documents experienced a 70% savings in time and a 39% reduction in errors compared to using the same documents in black and white [3].
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Retention
Agreement
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Attention
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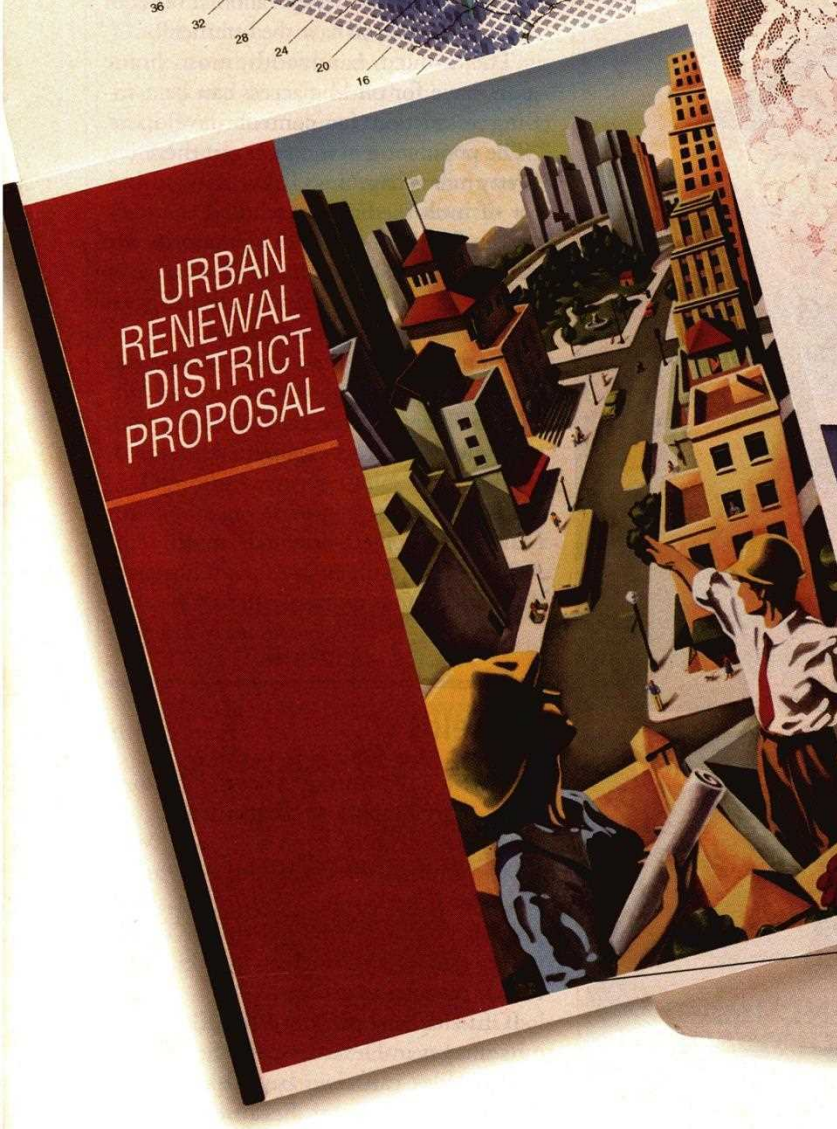
BW Visuals
[1] CARR Report No.110.3A "Does Color Increase Advertising Readership?", Cahners Publishing Co.
[2] "Update on split run tests on sales effectiveness of ROP color ads #20", internal report of color versus black and white ads, 1988, Newspaper Association of America.
[3] From a study conducted for the Xerox Corporation by Case & Company, Xerox Public Information Center.
[Borgers, et al, "Recall and Recognition of Words and Pictures by Adults and Children," Bulletin of the Psychonomic Society 1977.]



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*PC Magazine, Nov. 22, 1994, Annual Printer Review.

X-Rite enters scanner calibration market

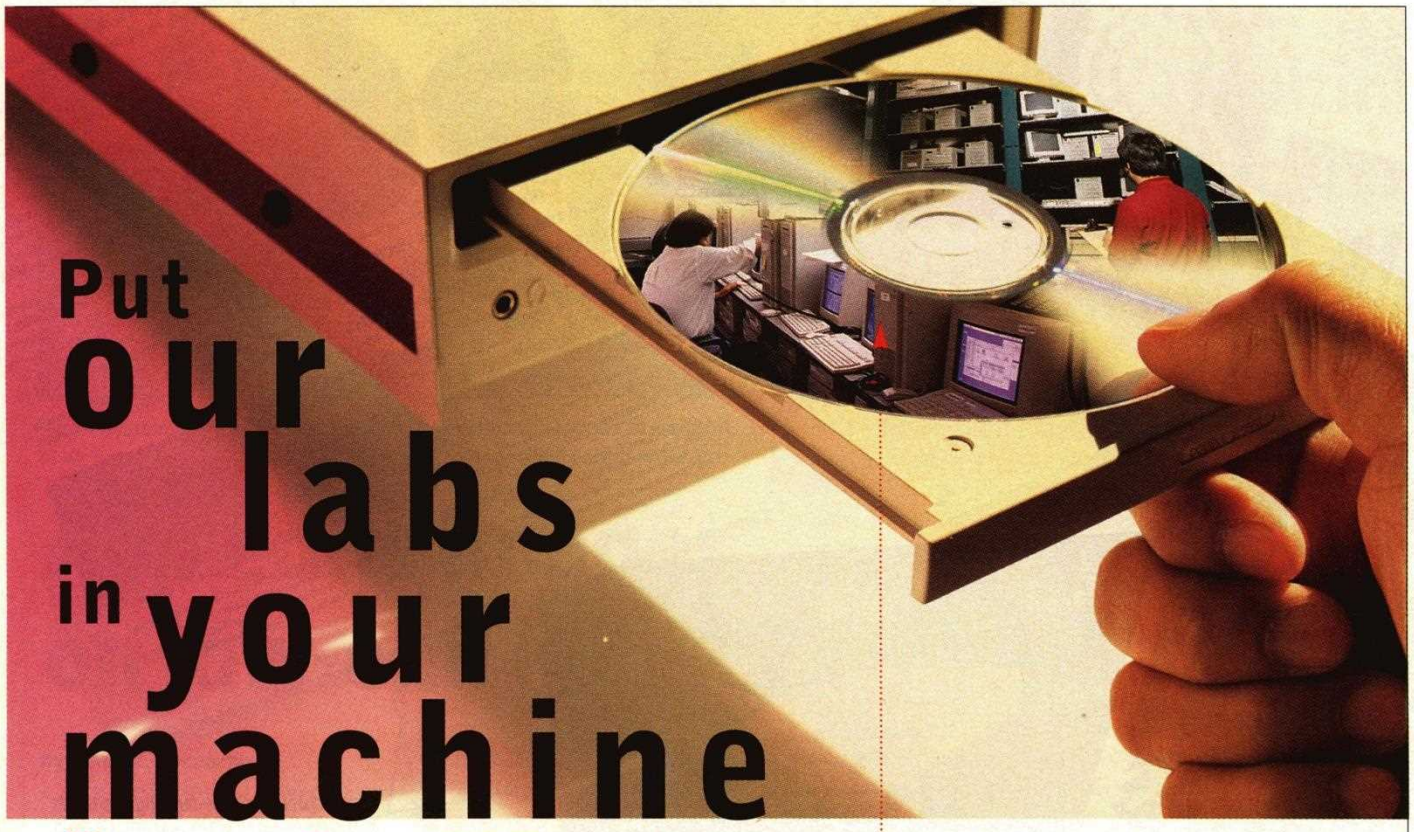
X-Rite Inc. showed its entry in the growing race of scanner calibration systems at Drupa 95 in Düsseldorf last month.

The Scanner Enhancer, slated to ship in July, is a $195 test-target package for creating ICC (International Color Consortium) profiles for individual color scanners.

Users will make profiles by running the included ISO IT8 target image through their scanners and selecting a corresponding reference file from the Scanner Enhancer software. The software will then compare the two files and formulate an ICC profile compatible with ColorSync 2.0.

A 4-by-5-inch transparency test image and associated file will be available as an option for $200. A test image kit for 35mm slide scanners will be $100.

X-Rite Inc. of Grandville, Mich., can be reached at (616) 534-7663; fax (616) 534-1466. □



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FOCUS ON
From Page 10

is a dynamic medium. It is for changes, differences," said Norm Gudmundson, vice president of engineering at mFactory of Burlingame, Calif. "The big problem with CD-ROM is that it is unchangeable, static."

David Biedny, principal at Idig, a multimedia and production company in San Rafael, Calif., said that speed, another difference between the technologies, is an issue in developing combined applications. "Multimedia developers have bitched and moaned about the slow access time of the CD-ROM," he said. "Let's slow it down another order of magnitude and you have the Internet."

The limited bandwidth most home users have for on-line access can be a stifling restriction for content developers. "The population of modems out there is a pretty mixed bag," said Bruce Ryon, director of multimedia research at Dataquest Inc. in San Jose, Calif. "The majority are still in the 2,400-baud range. You have to target your development to the biggest population of hardware devices."

But title developers and tool makers agree that there is no time to wait for everyone to get T1 lines before moving ahead with multimedia-Internet exploration.

Object lessons

Makers of object-oriented multimedia scripting environments see their solutions as appropriate for creating multimedia con-

Continued on next page

ICEfields

From Page 10

used with any printing process, including offset, digital press and laser printers.

"We use ICEfields on a [Power Mac] 6100 to do about 20 separations a day and it just runs lickety-split," said John Cullen, publisher of the Storm Lake (Iowa) Times. Cullen said a 5-by-7-inch photo takes three to four minutes to process.

ICEfields can open any TIFF file. It outputs images in Desktop Color Separation format; files can then be output to any PostScript imagesetter. Because ICEfields is a software RIP, users can output one image on an imagesetter while processing another on the Mac.

The software can also process one section of a photograph while leaving the rest of an image to rasterize through traditional screening methods.

ICEfields' features include selectable dot sizes, which allows resolution to be tailored to the particular printing process, and a compensation table interface to adjust for dot gain and optimize tone curve.

ICEfields requires a 68030 or higher Mac with math coprocessor and at least 8 Mbytes of RAM, although 16 is recommended.

Users also need 32-bit QuickDraw and AppleScript to create scripts for specific imagesetters and job batching. On a Power Mac, ICEfields requires 16 Mbytes of RAM and 24-bit color.

The Color Partnership of Del Mar, Calif., can be reached at (619) 259-8688 or (800) 554-8688; fax (619) 259-8709. □

tent to be sent over the Web in small files.

Ray Davis, of Kaleida Labs Inc.'s developer services, said the ScriptX programming language from the Mountain View, Calif.-based company offers "this idea of objects not just being data or pictures but also being behaviors. That's where the boundaries get pushed from this static [multimedia] publishing model to ways of interacting with the user. When you bring in an object, you're not just adding a picture or a number. You can also add behavior and change what is going on."

mFactory's $4,995 mTropolis, slated for a general ship this fall, works on a similar object-oriented philosophy. mTropolis' Gudmundson said, "In an environment like ours where you can make objects out of parts and describe how the objects interact, the information about interaction could easily come down from the Net." mTropolis was developed with Internet solutions in mind, he said. "One of the reasons we've focused on keeping the size of our modules so small and spent time making sure they are described efficiently is that we anticipated moving those modifiers across relatively slow connections, like the Internet." mTropolis objects and behavior modifiers range in size from 500 bytes to 16 Kbytes.

Duncan Kennedy, QuickTime product line manager at Apple, said that the company's QuickTime VR development tools for 3-D panoramic scenes can be used to create Web applications. "You'll have a player or browser local to your computer and you'll just download the scene and navigate through it. You may not even have to download the information because it is so small. A 360-degree panorama might be only 260 Kbytes."

Title developers and tool makers agree there is no time to wait for everyone to get T1 lines before moving ahead with multimedia-Internet exploration.

Language barrier

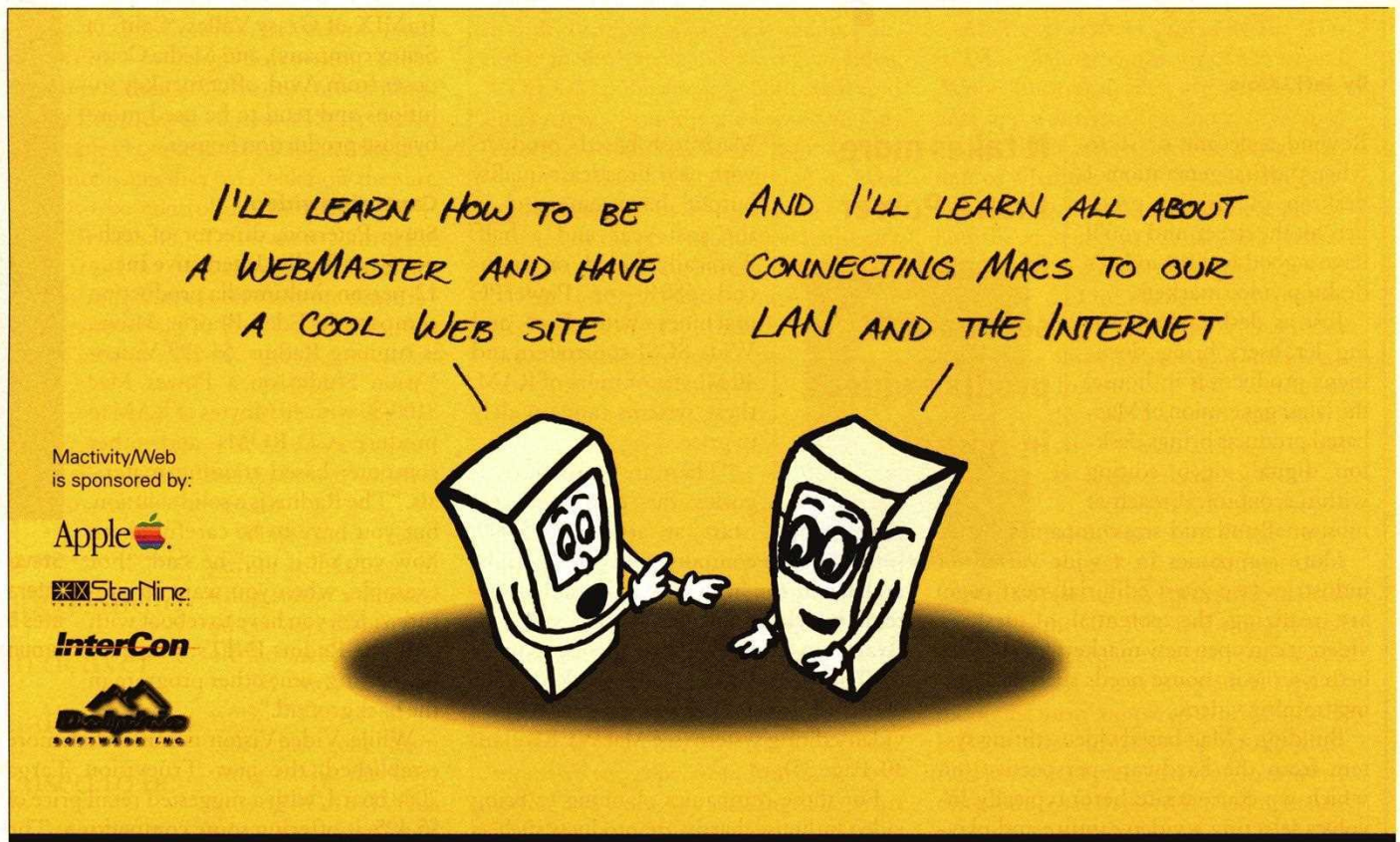
Innovation toward bringing more multimedia to the Web and more Web content to multimedia is also coming from other areas.

The recent announcement that Netscape will license Sun's cross-platform Java programming language opens up a new mode of delivery for multimedia on the Web. Users of Java-compatible Navigator for the Mac, Windows and Unix will be able to access small cross-platform applications as part of Web pages. For example, a Web page could have an animation that runs whenever the page is open, without interrupting the page's other capabilities.

And although the Web's markup language, HTML (Hypertext Markup Language), does little to support multimedia functionality aside from pointing out files to helper applications, there is some controversy as to whether future versions of the language should take on more tasks. "Trying to push HTML further along the lines of interactive animation would be a big mistake," said Kaleida's Davis. "I think one of the things that has made HTML a success is its simplicity."

Browser progress

By moving away from the helper-application-based model they currently use, Web browsers can advance the integration of multimedia and the Web. Netscape this week announced that it will build the Macromedia Director player into the next version of Navigator, letting Director movies play in their own windows on Web pages (see story, Page 10). Building in runtime capabilities for a variety of formats, such as Director and Adobe Acrobat's Portable Document Format (see MacWEEK, April 3, Page 1), will open the Web to more diverse content and make surfing a smoother process for users. Netscape product marketing manager Jon Mittlehauser said, "Just like it is transparent now where the file came from, whether it was Sweden or San Francisco, it would be great in the future for it to be transparent what type of file it was." □



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Getting the goods on desktop video

By Jeff Ubois

It takes more than a Power Mac and editing software to produce videos in-house.

Rewind a decade or so to when the first generation of desktop publishing products hit the street, and you'll have a good feel for today's desktop video markets.

Just as desktop publishing let users bring document production in-house, the latest generation of Mac-based products brings desktop digital video editing within economical reach of most small and mid-size companies.

More companies in a wide variety of industries (see guest editorial, next page) are realizing the potential of desktop video; it can open new markets for them or better serve in-house needs such as creating training videos.

Building a Mac-based video-editing system from the hardware perspective (on which we concentrate here) typically involves selecting a video capture and playback system, assembling a suite of video and audio hardware, ensuring that there is adequate storage, and performing a good deal of performance tuning on whatever Mac the system is built around.

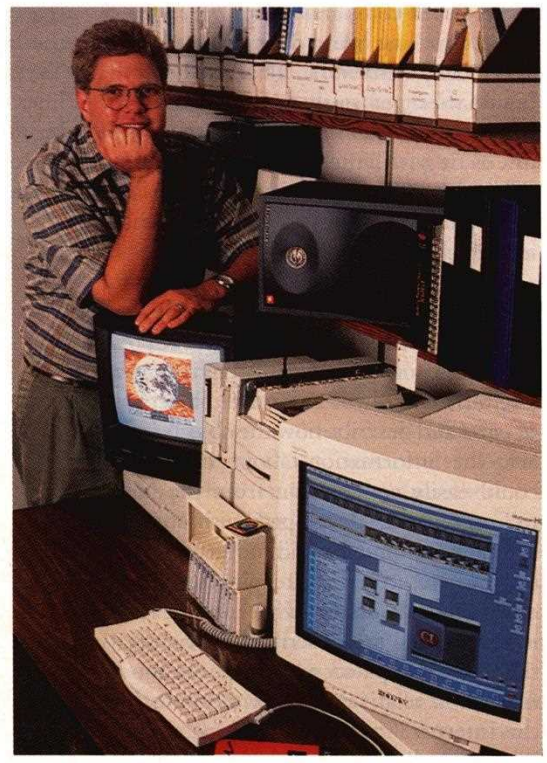
For companies that want to begin working with video, at least half a dozen Macintosh-based products with near broadcast-quality output have emerged in the past year and a half. Typically based on high-end 68040 or PowerPC machines with Fast and Wide SCSI controllers and 40 Mbytes or more of RAM, these systems range widely in price.

"There are two basic categories: the 'prosumer' systems, which start at around $15,000, [including the computer and other peripherals], and the high-end professional systems, which are $50,000 and up," said Tim Byars, an independent video producer in Torrance, Calif. Byars worked with NBC-TV to set up an in-house Mac-based video-editing system (see MacWEEK, Jan. 30, Page 35).

For those companies planning to bring video in-house, hardware products such as Media Suite Pro from Avid Technology Inc. of Tewksbury, Mass.; Media 100 from Data Translation Inc. of Marlboro, Mass.; VideoVision from Radius Inc. of Sunnyvale, Calif.; and Targa 2000 from Truevision of Santa Clara, Calif., offer near broadcast-quality output in a variety of video formats, including QuickTime.

The editing software of choice to accompany these less-expensive products is usually Adobe Premiere from Adobe Systems Inc. of Mountain View, Calif.

High-end systems, such as VideoCube and TurboCube from ImMIX of Grass Valley, Calif. (a Scitex company), and Media Composer from Avid, offer turnkey solutions and tend to be used more by post-production houses.



JUDY GRIESEDIECK/BLACK STAR

Steve Peterson is director of technology at Reality Interactive, a multimedia production company that creates business-oriented CD-ROMs using a system built around a Power Mac 8100/80 (see illustration below).

Capturing video

Steve Peterson, director of technology at Reality Interactive Inc., a 12-person multimedia production company in Eden Prairie, Minn., is running Radius' $4,499 VideoVision Studio on a Power Mac 8100/80 with 40 Mbytes of RAM to produce CD-ROMs and other computer-based training materials. "The Radius is a solid solution, but you have to be careful about how you set it up," he said. "For example, when you want to capture video, you have to reboot with only the Radius INITs; you can't be running some other program in the background."

While VideoVision is somewhat more established, the new Truevision Targa 2000 board, with a suggested retail price of $5,495, is offering some competition. The Targa 2000 can output NTSC video at 640 by 486 pixels at 60 fields per second. It also supports DAT-quality stereo audio recording and playback. (The Telecast product from Radius does this as well, according to the company.) An optional second NuBus card offered as part of the Targa 2000 Pro system offers component Betacam SP, YPrPb and RGB video.

"I loaded the Targa into a Quadra 950 with old Conner drives running at about 3.1 [Mbytes per second], and it wasn't dropping any frames at all," Byars said. "With the compression turned down, I was getting VHS quality."

Matthew Payne, executive producer at Payne Media in Kirkland, Wash., recently abandoned a VideoVision system for the new Targa product.

"I'm running 6- to 7-Mbytes-per-second data streams on a Quadra 840AV with the Targa 2000, so I'm working in real time," Payne said. "The quality of the picture is superb; I'm not getting any dropped frames or lip-sync problems."

Payne equipped his Quadra 840AV with 40 Mbytes of RAM and an 8-Gbyte disk array. "A fully equipped studio like mine can deliver broadcast-quality TV for $35,000," he said. "It used to be $100,000 to $300,000."

The Mac stuff

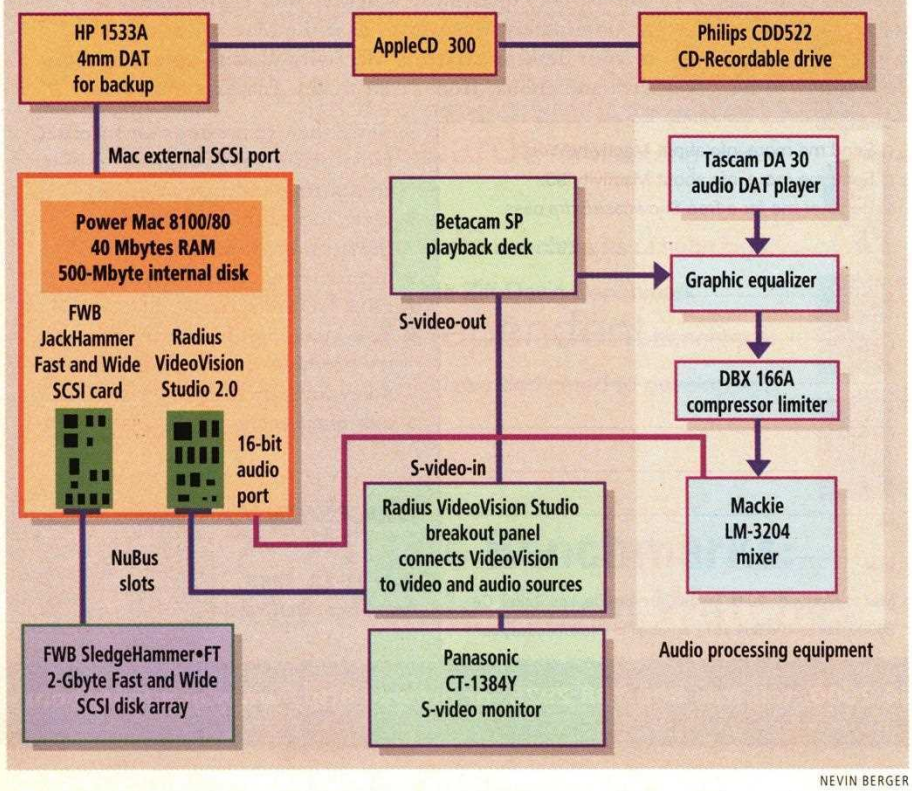
Choosing the right video capture and playback system is only the first of a number of decisions required to build a complete video and multimedia production facility. Video generates tremendous amounts of data, and selecting CPU, memory, disk arrays and tape backup systems that provide the necessary performance is critical. At best, lower data rates require higher compression ratios, which result in lower image quality. Worse, performance bottlenecks can result in dropped frames.

You should consider:

- CPU and memory. Because much of the video processing is done on dedicated boards, users may think raw CPU power is all they need, but it's not that simple. While having lots of memory is important — 40 Mbytes seems to be a typical minimum — many video producers often do most of their fine-tuning on hard disk arrays.
- Storage. A growing number of storage products are aimed squarely at the video market, including FWB Inc.'s SledgeHammer•FT array, Seagate Technology Inc.'s Barracuda and Elite drives, MicroNet Technology Inc.'s Raven arrays, Micropolis Corp.'s WAV drives, Mirror Technologies Inc.'s Precision arrays, Radius' StudioArray, and Mega Drive Systems Inc.'s Seagate-based arrays. These Fast and Wide SCSI disk arrays are considerably more expensive than plain vanilla SCSI drives, with prices climbing into the $2-per-megabyte range, but they offer sustained transfer rates in excess of 6 Mbytes per second.

The data transfer rate on most Macintosh SCSI ports tops out at about 4 Mbytes per second, so getting the most out of the new drives requires adding a SCSI accelerator card. Prices on these accelerators, such as the FWB PCI SCSI JackHammer storage accelerator and the Atto Silicon

Reality Interactive's hardware setup



NEVIN BERGER

Express IV SCSI accelerator from ATTO Technology Inc. have dropped into the $500-to-$900 range.

Some users take a hierarchical storage-management approach, using Fast and Wide SCSI drives for real work and then off-loading clips, which will be used again soon, to plain SCSI drives and archiving on tape.

Users who plan to put together their own systems should buy disk cabinets with lots of fans. "Never put two Barracudas into an 8100 chassis — you want a nice, airy, vented cabinet," Byars said.

Video production also requires high-end tape backup systems. Peterson, for example, is using a Hewlett-Packard 4mm DAT that can back up 1 Gbyte in an hour. "We make several backups throughout so we can rebuild from several points," Peterson said.

Digital linear tape drives recently released from FWB and APS Technologies Inc. can back up 1 Gbyte in about 10 minutes.

Video peripherals

Mastering the various Mac-related aspects of desktop video editing is trivial compared to the arcana of video production. Even the most capable in-house production teams will find it worthwhile to use video professionals at various stages in their production.

Similarly, the use of professional video equipment can make a huge difference in the editing process and in the final product. For example, camera noise — dancing pixels — on a plain color field can add several megabits per second to a video stream.

Byars said that switching from lower-end composite video equipment, which uses only a single video signal, to component video equipment, which splits the video signal into several independently adjustable signals, dramatically reduces the noise in video signals, thereby reducing bandwidth requirements by about 1 Mbps.

"I rent a broadcast-quality Betacam SP deck on the day I digitize, which improves the signal-to-noise ratio by more than 50 percent, and that improves compression," Peterson said. "Using a camera that is quiet is really important because you want good, clean input. In a talking-head shot with a static background, you want the compressor to spend time on the face, not on the dancing pixels in the background."

But Payne sees many advantages in shooting with Hi-8 video first, before committing to a full production. "I use Hi-8 video for nonbroadcast presentations and for visualization and, depending on what the client wants, crew up with as many as 35 people to shoot in Betacam or on film," Payne said.

While analog cameras continue to improve, digital cameras are now becoming available. For example, Avid recently began shipping CamCutter, essentially an Ikegami Tsushinkia Co. Ltd. video camera that records directly onto removable hard disks. In addition, Matsushita Electric Industrial Co. recently announced a camcorder that uses the Digital Video Cassette standard, which relies on digital tape, and other video camera manufacturers are planning similar products.

On the editing and output side, there is a growing variety of options that control video hardware directly from the Mac. Sony, for example, has offered for some time a proprietary solution called VISCA (Video System Control Architecture) that allows direct control of decks using Adobe Premiere. Abbate Video Inc. offers plug-ins for Premiere to control VISCA decks.

"People get so concerned about Mac performance issues they overlook how they are going to be controlling the video hardware," Byars said. "You want to control the decks from the Mac editing software, not be punching buttons on a remote control."

Payne uses VTK Pro Tools from Abbate Video, a software package bundled with Truevision's MoviePak2, which stamps the frames with timecodes and ensures frame accuracy. "If there is a dropped frame, I can find it and replace it, which is a real strength," Payne said.

> "A fully equipped studio like mine can deliver broadcast-quality TV for $35,000. It used to be $100,000 to $300,000."
>
> — *Matthew Payne*

While some video purists still believe in using studio monitors, others say that using off-the-shelf, consumer NTSC monitors can work. "The trend in video has gone from using studio monitors to using RCA or JVC or other consumer product type of monitor," Byars said. "I'm using a 13-inch RCA monitor that sells for $255, and the reason is I don't want to make something that looks good here and terrible at home. If what you're making looks good on a consumer monitor, maybe you don't need a studio monitor."

Waiting for PCI?

Perhaps the most vexing problem for would-be desktop video editors is rapid obsolescence. Sinking $35,000 into a system that could be obsolete in two years is bad enough, and the uncertainty surrounding future technologies and standards makes it hard to intelligently plan migration paths.

While today's products are attractive for many users, the next generation of Power Macs with PCI buses due out this summer provides some incentive to wait. "You can get an 8100/100 or 110 and with a Targa or VideoVision board, a bus-mastering SCSI controller, a Fast and Wide SCSI disk array, and have a working solution today," Byars said. "But I am advising everyone who can to wait for the PCI buses."

That doesn't mean putting everything on hold. "It's not a matter of shutting down and waiting for PCI; you can get people ready and trained so when these solutions ship, you can move right into production," he said. □

GUEST EDITORIAL WALTER SCHILD

Electronic opportunities a boon to print publishing

The desktop publishing revolution is over, and the dawn of the next revolution is quickly approaching: new-media publishing. New media include digital video, CD-ROM publishing — both static and interactive — on-line publishing and interactive authoring. In the digital video segment alone, the revolution is well under way. If there is a lesson to be learned by the post-production houses it's from the typesetting industry.

For several years now desktop publishing, including electronic pre-press, has been in an evolutionary mode. Refinements and enhancements are now the order of the day, instead of the leaps in features and productivity that I've seen over the past seven years. (Not that just tracking current revisions to QuarkXPress isn't a daunting task.)

I've participated in many debates on the quality of desktop video and the road linear and high-end nonlinear systems will be taking. It's uncanny how similar a course those two very separate industries — typesetting and video — are taking. The smart post houses will carefully review what happened to type houses in the late 1980s and create a strategic survival plan.

Producing evolution

As far as my company, Alan Lithograph Inc., goes, I like to think we're planning for the future. For the past few years, my company has worked on a car account for a large advertising agency. We've produced car books, display ads, collateral materials and ad planners. The ad planners are sent to the local dealers and include camera-ready art, or ad slicks, of display ads and logos; transparencies; text of radio spots; and storyboards of TV commercials.

The problem with the conventional ad planner was the lack of electronic editing capabilities. The ad slicks were prescreened at 85 lines for newsprint. Therefore, the art could not be reused for a 150-line magazine ad on coated stock. Nor could it be resized for different page dimensions.

Our solution was to produce a CD-ROM to accompany the ad planner that included key elements in electronic form. This would allow the local dealer or its agency to access the files it needed in a more versatile form. Indeed, the ad slick was still there, but now it could be output on any medium the dealer desired and could be rescreened to the optimum resolution of the intended publication, whether a full-color billboard or a black-and-white newspaper ad.

After two years of providing the CD-ROM ad planner, consisting of XPress and Adobe Illustrator files, we decided the next step was to make it interactive, providing either a navigated or self-guided tour of what the CD-ROM actually contained. Also, it could contain examples of how the content could be used to advertise in a variety of media.

One of the big advantages of the CD-ROM is that it can incorporate audio and video. Instead of a few keyframes from a TV spot, the entire clip — with audio — could be digitized and viewed.

Although the pilot project and the CD-ROMs that preceded it supplemented the printed ad planner, it's apparent to me that eventually the CD-ROM, or a new digital medium, will replace the conventional ad planner. There are so many advantages to the digital form compared to print, including cost. Now, instead of being able to afford just one ad planner a year, a company can produce several CD-ROMs, updating each release with the latest ad. Of course, this allows for more dynamic response to the marketplace and competition than ever before.

In the future, with better compression and denser CD-ROMs, ready-for-air video will actually be included as well, eliminating the need to order Betacam tapes of TV spots for local stations. The options are mind-boggling, and new capabilities are appearing constantly as the revolution in hardware and software continues to open new doors.

Interface overload

One of the key limitations to interactivity by the agencies is the overwhelming interface used in multimedia applications such as Macromedia Director. The vast majority of new-media projects today are being produced out-of-house for this very reason. When Quark Inc. and Adobe Systems Inc. ship their authoring tools, more of the creative folks in-house will get involved. That's the beauty of Quark's forthcoming multimedia XTension, code-named Orion. With Quark's installed base, we'll see interactive projects boom.

Just as the existing creators of print will be authoring new media projects, existing service providers will be uniquely poised to offer new products. □

Walter Schild (wschild@aol.com) is director of R&D for Alan Lithograph Inc. in Los Angeles.

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CERTIFIABLE

Novell Inc. says it has certified 50,000 NetWare managers in two and a half years and is adding 10,000 each quarter.

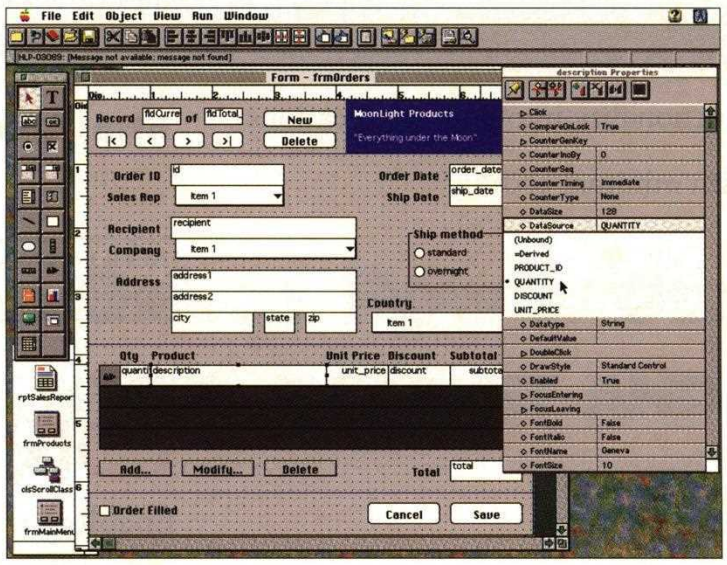
Oracle set to update client-server tool line

Designer/2000 not Mac-bound

By Clifford Colby

Oracle Corp. plans to bring its Developer/2000 line to the Mac this summer. Coupled with the company's imminent Power Objects, the new tools will create a broader Macintosh base for Oracle client-server database options.

"I don't think on the Mac side, for second-generation tools, there is anyone offering this breadth of tools," said Evan Quinn, research manager for third-generation languages and development environments for International Data Corp. of Framingham, Mass. "It gives the Mac a boost."



Oracle plans for Power Objects, its low-end rapid-application-development tool, to be available this summer for Power Macs and Windows machines.

Oracle announced in March it would split its Cooperative Development Environment into two suites: Developer/2000 and Designer/2000.

Developer/2000, released for Windows in May, lets users create forms, reports, charts and diagrams. Oracle will release a beta version of Developer/2000 for 680x0 and PowerPC Macs this summer. The company plans to release the suite in the fourth quarter for $3,995 per programmer with no runtime fees.

Developer/2000 is focused on enterprise-scale development and has an improved look and feel that resembles Microsoft Corp.'s Visual Basic, said Dennis Moore, vice president of product marketing for Oracle's tools division.

Besides improving user interfaces, the company also spruced up Developer/2000's tools by adding the capability to access Sybase, Informix and Ingres databases through Open Database Connectivity drivers from Intersolv Inc.; a native driver to Rdb, the database Oracle acquired from Digital Equipment Corp. in 1994; and revamped documentation. Developer/2000 will initially work with OLE; Moore said Oracle will include OpenDoc capabilities in the tools suite early in 1996.

See Oracle, Page 20

New Internet apps reach the market

By James Staten

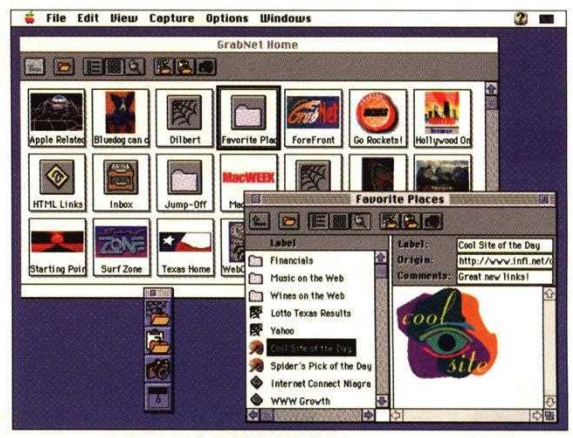
The first Mac-based challenger to Star Nine Technologies Inc.'s WebSTAR shipped last week, and The ForeFront Group Inc., Software Ventures Corp. and P.INK Software Engineering GmbH & Co. unveiled new Internet tools.

▶ **NetWings Inc.** of Fremont, Calif., shipped its self-named Internet server for the Power Mac for a list price of $1,500. NetWings functions as a server for HTTP (Hypertext Transport Protocol), SMTP (Simple Mail Transfer Protocol), Post Office Protocol and e-mail list processing. The program is based on ACI US Inc.'s 4th Dimension relational database, providing an integrated search engine, NetWings said.

In addition to traditional server functions, NetWings offers an HTML (Hypertext Markup Language) conversion tool, a custom log-report generator and an internal image-map processor.

The company said the program

See Internet, Page 20



ForeFront's GrabNet, a drag-and-drop organizational tool for Internet browsing, stores URLs, images and text in a collection of user-definable folders.

Apple ships Windows clients

Late last month, Apple shipped its delayed Windows clients for AppleShare and AppleSearch.

The AppleShare client will be bundled with Workgroup Servers; customers who have bought servers since Jan. 1 can get the software for Intel-standard PCs directly from Apple. Owners of AppleSearch 1.5, released in December, or this spring's Apple Internet Server Solution for the World-Wide Web can receive the Windows AppleSearch free.

AppleSearch 1.0 owners can upgrade to Version 1.5, including the PC client, for $99. Owners of AppleShare can purchase a license to Windows AppleShare clients for an unlimited number of users for $199.

Both clients are based on an AppleTalk protocol stack, developed by Miramar Systems Inc. of Santa Barbara, Calif.

AppleSearch owners can call Apple at (800) 769-2775, Ext. 5921; Workgroup Server and Web server owners can call (800) 617-1788. □

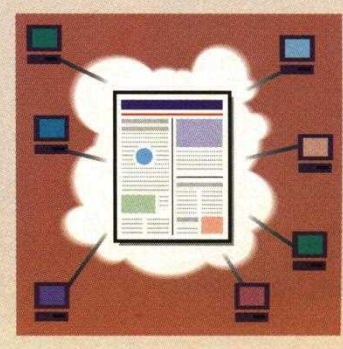
FOCUS ON INTERNET

Programs race to succeed HTML

By James Felici

All dressed up and nowhere to go; that's been the rap on portable digital documents, but it's a changing story now that the Internet beckons. And although Adobe Systems Inc. and Netscape Communications Inc. have made the most noise, lesser-known Common Ground Software Inc. looks to be first with the biggest advances this month.

The leading programs for creating digital documents — Adobe Acrobat 2.0, Common Ground and Envoy from WordPerfect, the Novell Applications Group — all represent maturing technology for local document capture. But electronic distribution and retrieval, especially over the Internet, is set to advance by leaps and bounds.



In April, Adobe and Netscape, both of Mountain View, Calif., announced that they will integrate their Internet navigation and document-display software by the end of the year (see MacWEEK, April 3, Page 1). The problem these companies aim to solve is that Internet browsers, such as Netscape's Navigator, work with documents created in standard formats, particularly the World-Wide Web's HTML (Hypertext Markup Language). Today's browsers are not cut out to

See Focus On, Page 20

For more Internet analysis, see the GA Focus On about multimedia on the World-Wide Web, Page 10.

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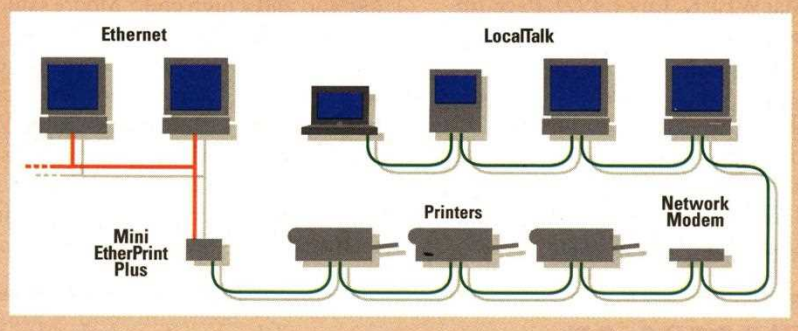

Mini EtherPrint products are ultracompact plug-and-print solutions offering Ethernet connectivity for LocalTalk devices. Mini EtherPrint supports 1 or 2 devices, Mini EtherPrint Plus supports up to 8.

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Internet

From Page 18

can also serve files from anywhere on a network without sacrificing security.

NetWings provides full support for Apple events and AppleScript, so most CGIs (Common Gateway Interfaces) can work with the product. The server provides a built-in censor that lets administrators maintain a list of words or phrases that are not to appear in HTML pages.

NetWings' World-Wide Web page is at http://netwings.com.

▶ **The ForeFront Group** of Houston delivered GrabNet, a drag-and-drop organizational tool for Internet browsing. The $19.95 application works in conjunction with any Web browser and stores URLs (universal resource locators), images and text in a collection of user-definable folders. Users can access the stored URLs either by double-clicking them or dragging them into a Web browser.

Items can be easily reorganized and dragged into other drag-capable applications, such as word processors or graphics programs. Items can be viewed in a list or tiled, and multiple windows can be opened at once. A native Power Mac version is expected later this month.

The ForeFront Group's Web page is at http://www.ffg.com.

▶ **Software Ventures** of Berkeley, Calif., shipped Internet Valet, a collection of Internet-access tools bundled with a free two-week Internet account.

The $49.95 package includes MacTCP, FCR Software Inc.'s MacPPP, Spyglass Inc.'s Enhanced Mosaic, Qualcomm Inc.'s Eudora, Northwestern University's NewsWatcher, Dartmouth College's Fetch, The University of Minnesota's TurboGopher and a Telnet-only version of Software Ventures' MicroPhone. The installer automatically configures the applications and system software for use on the Internet and creates a launch palette containing all the applications.

Software Ventures' Web page is at http://www.svcdudes.com.

▶ **P.INK** of Hamburg, Germany, in July will ship P.INK WebManager, an HTML editor that can be used with the P.INK Media System, an archival and retrieval system for electronic documents (see MacWEEK, July 4, 1994, Page 16).

The program converts ASCII text and PICT graphics into HTML files and allows users to edit the content as it would appear in a Web browser. Hypertext links can be created through the editor, but forms and tables are not supported. Pricing has not been set.

P.INK can be reached at 49-40-4117-0966; fax 49-40-4117-0910. □

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Server to the Macs

Versit opens GeoPort

By Stephen Howard

All the best specs in life are free, according to Versit. The group of four communications vendors recently released free specifications for the GeoPort telephony hardware and a digital business-card standard.

The specifications are the first to come out of the group, which is composed of Apple, AT&T Corp., IBM Corp. and Siemens Rolm Communications Inc. Versit was formed in November to promote interoperability among computer telephony products (see MacWEEK, Dec. 5, 1994, Page 1).

The Versit GeoPort design is identical to the high-speed serial architecture in today's Power Macs, with one big difference: It's free. Apple's earlier licensing fee for GeoPort "was greater than zero ... and anything greater than zero was a problem," said Al Rosen, Versit managing director for IBM. Free licensing terms are important to getting support from third-party developers, he said. The complementary software specifications are expected to be released in late summer.

Despite likely competition from Intel Corp.'s Universal Serial Bus (see MacWEEK, May 22, Page 1), AT&T is actively planning products that will use GeoPort technology. "The USB specification that Intel is leading makes a lot of sense for solving a lot of problems with that platform," said Larry Jacobs, Versit managing director for AT&T. "What we're focusing on is communications."

"We're committed to putting GeoPort in our next generation of phones," which are due in the first quarter of 1996, he said.

IBM's Rosen said his company's personal computer division will support both proposed serial-port standards.

The new Versitcard standard defines a package of information about a person, such as name, phone number, fax number and e-mail address. Jacobs likened the Versitcard to a next-generation Caller ID.

Based on Bento, Apple's compound-document technology, Versitcards are designed to be a standard means to identify users of digital communications systems and exchange personal information among devices such as organizers, PDAs and computers. Versit released free Personal Data Interchange specifications, sample Versitcard applications and the Bento source code the last week of May.

Information and copies of the Versit specifications will be available on the Internet at http://www.versit.com. □

Oracle

From Page 18

While Developer/2000 is focused on the enterprise, Power Objects is intended for development from the single user to the workgroup (see MacWEEK, Jan. 23, Page 10). "The industry is learning that there is a low end and a high end," Moore said.

Power Objects, due this summer, is intended to give the company entrance into the low-end client-server development market and will compete with Visual Basic, said Nimish Mehta, vice president for Oracle's desktop products division. Mehta said Power Objects will be similar to Visual Basic but more database-aware and object-oriented, and it will allow the creation of compiled programs. "It is safe to assume Apple and IBM [Corp.] are working with us to make this successful," he said.

Power Objects will cost $399 for a standalone version with database and $1,999 for a client-server version with no runtime fees.

Designer/2000, which costs $3,995 a seat, contains Oracle's tools for data modeling and computer-aided software engineering. Moore said the company doesn't plan to bring the suite to the Macintosh.

Oracle Corp. of Redwood Shores, Calif., can be reached at (415) 506-7000 or (800) 672-2531. □

FOCUS ON

From Page 18

handle documents in proprietary formats, such as Acrobat's Portable Document Format (PDF) and Digital Paper from Common Ground of Belmont, Calif.

Currently a browser like Netscape Navigator can locate a portable document on the Internet, and, if it has a header in HTML, the browser can pass information about the document back to the user. If the user wants to view the file, it must be downloaded to a local device, whereupon the document reader utility will be launched as a "helper application" to display the document.

What Adobe says it wants from the alliance with Netscape is an integrated browser — one that can browse for, search and display PDF files as well as HTML files without requiring users to download anything until they have found what they want.

Adobe's first move in this direction is Weblink, a plug-in to the $195 Acrobat Exchange 2.0. The free Weblink, still in beta, enables a publisher to create hyperlinks among PDF documents on the Web only; it cannot tie together PDF files on a LAN.

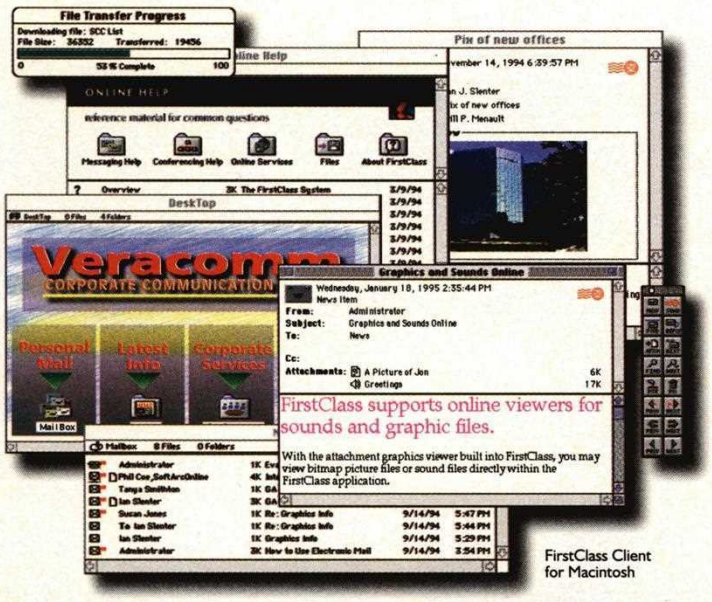
But while Adobe and Netscape made headlines, they are not the only players in the market. Tumbleweed Software Co. of Redwood City, Calif., which makes Envoy for Orem, Utah-based WordPerfect, is beta testing a similar program. The Envoy plug-in works with the freely distributed Envoy Reader, whereas Weblink works only with Exchange rather than with the free Acrobat Reader. Furthermore, WordPerfect is bundling millions of its soon-to-be-Web-savvy Envoy Readers with its Perfect Office suite and Novell NetWare servers for Intel-standard PCs.

Meanwhile, Common Ground expects to release this summer the first integrated browser (see MacWEEK, Feb. 13, Page 1). The Windows version will ship first in June; the Mac version is expected by late August.

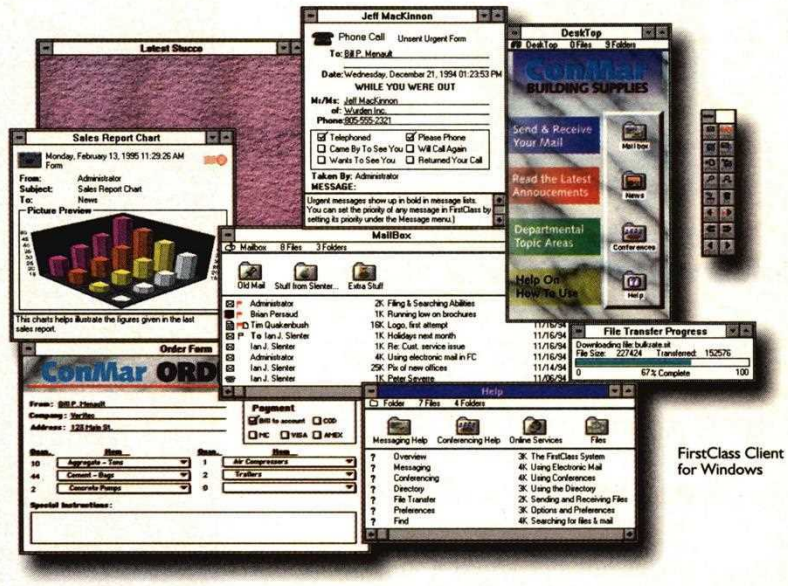
The catch is that for the Common Ground links, indexes and searches to work, the Internet site must have been created and the files prepared with the Internet Publisher, a $1,495 Common Ground program also arriving at the end of June.

When connected to such a site, Common Ground's ProViewer and its free MiniViewer will work as integrated Web browsers. Users will be able to create a link that points to a specific document on the Internet and point to a specific page, which can be viewed or downloaded individually.

While this goal is shared by all the portable-document companies, Common Ground's tools will be the first testing ground of a concept intended to transform the Web. □



FirstClass Client for Macintosh



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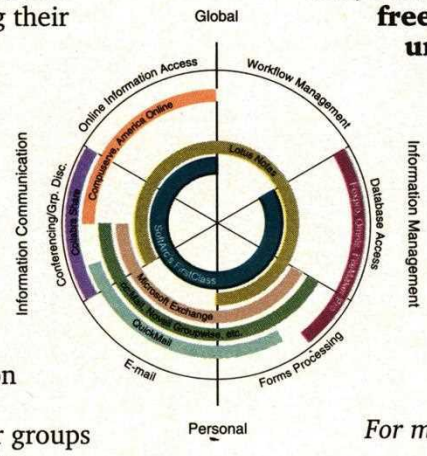

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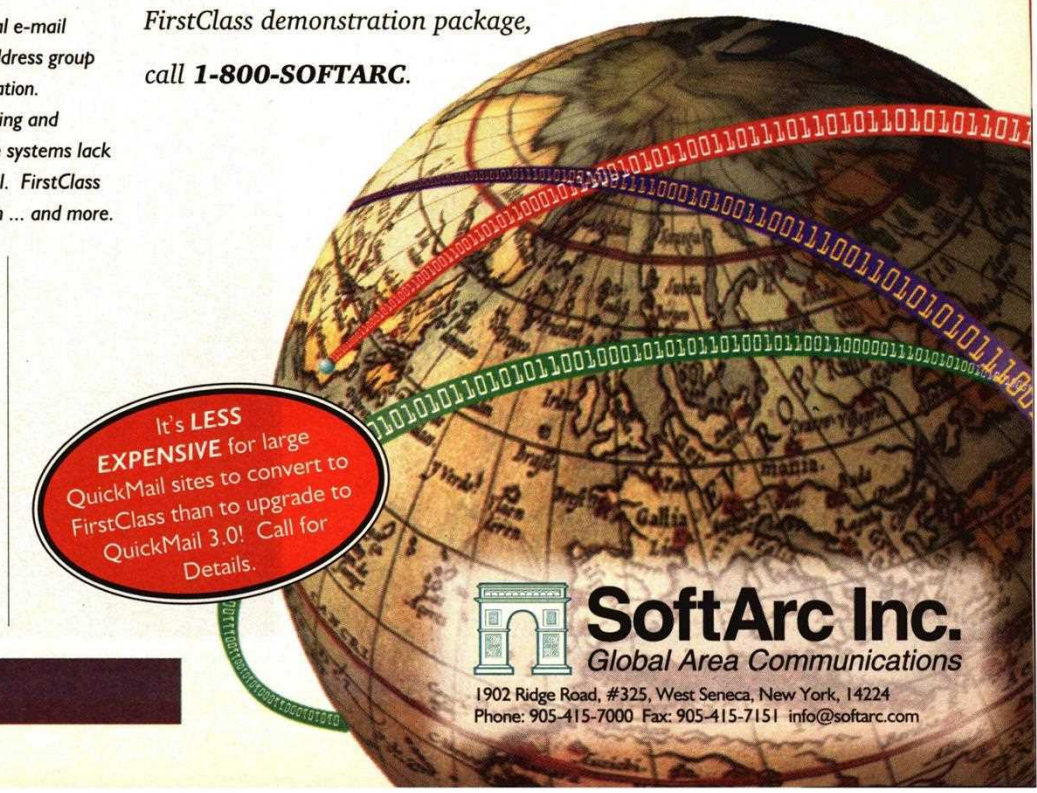

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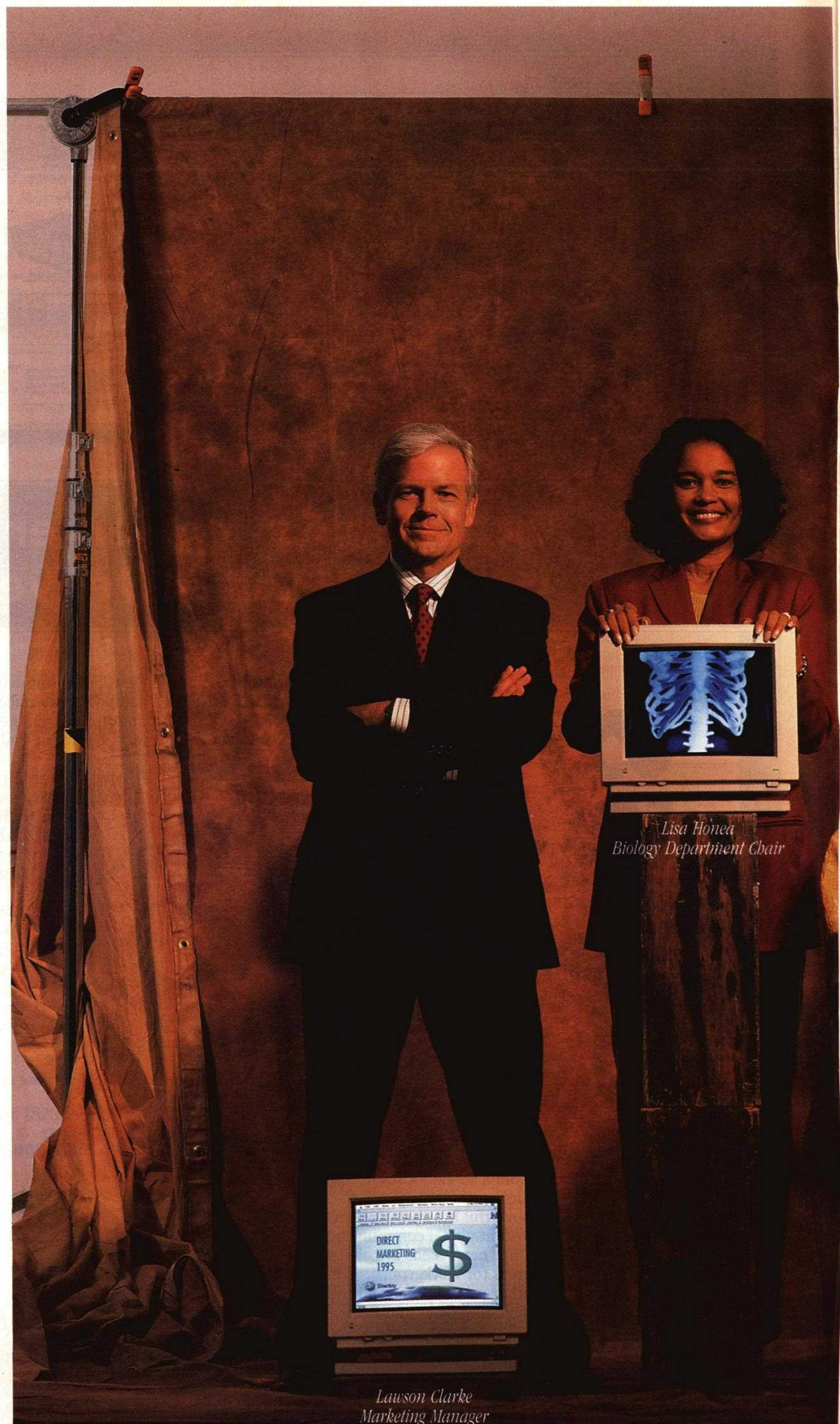

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Lawson Clarke
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BUSINESS

HIGHER EDUCATION

Three-fourths of Mac users have college degrees, while half of DOS/Windows users do.

— Apple research

Microsoft doubles fees

Raises licensing rates to combat concurrent usage

By Don Monkerud

Savvy IS managers can kiss goodbye the money they have been saving from sharing applications over WANs and by borrowing software from overseas operations.

Microsoft Corp. of Redmond, Wash., last month announced that beginning in January it will double the price of its concurrent licensing fees worldwide and bar the sharing of Mac and Windows applications across domestic and international time zones. The changes are part of Select 3.0, a new volume-licensing plan that also raises levels for discount volume pricing.

Some IS managers have realized vast savings with enterprisewide applications-metering tools that allow users to check out unused software from a server, much like a person would check books out of a library. If all the copies on a local server are in use, the application will locate a free copy. Tracy Muscacchio, product manager at McAfee Associates Inc. of Santa Clara, Calif., said one of the company's users saved $800,000 with McAfee's SiteMeter 5.0 metering software.

Microsoft's announcement will affect companies with as few as 15 desktop machines. On the upside, Select 3.0 will cut minimum purchase qualification by 50 percent, to 500 units, and replace quarterly monitoring reports with reports from resellers. However, critics contend the increased prices are simply Microsoft's way to combat losses from concurrent usage.

"Microsoft is turning software into an insurance program like they used to do with the OEMs," said Mark Calkins, vice president and general manager of Novell's business applications division in Orem, Utah.

Although Lotus Development Corp. and Novell Inc. said they have no plans to increase their concurrent licensing fees, the move may set a trend. "Other [vendors] will now join the bandwagon because more companies are taking advantage of concurrent licensing," said Peter Beruk, litigation manager for the Software Publishers Association of Washington, D.C.

While users object to Microsoft's plan, vendors will continue to deliver applications-metering solutions, observers said.

"Over the next year or two there will be an explosion of management tools," Calkins said. "Why not give customers some good tools and let them decide how to use them?" □

Judge OKs Prodigy suit

By James Staten

A Prodigy Services Co. subscriber who accused a Lake Success, N.Y.-based investment banking firm of criminal conduct has landed the on-line company in legal hot water.

New York State Supreme Court Justice Stuart Ain last month ruled the on-line service could be liable for allegedly damaging remarks a subscriber made about Stratton Oakmont Inc. on Prodigy's popular MoneyTalk discussion line. The firm named Prodigy in a $200 million libel suit last year (see MacWEEK, Nov. 28, 1994, Page 24).

Industry observers have been watching the case closely because of its possible implications. On-line providers contend they have no control over the content of messages sent by their members.

However, Ain said in his ruling that, unlike its competitors, Prodigy of White Plains, N.Y., has claimed as far back as 1990 that it exercises editorial control over its subscribers' messages. □

Egghead eyes hardware

By Jon Swartz

After years of success in the software business, Egghead Software Inc. is about to take a crack at selling personal computers.

Starting this summer, the $800 million software retail chain plans to expand almost a third of its 170 stores nationwide to include desktop and portable computers for the first time, according to sources. Egghead, which currently offers a handful of peripherals from Hewlett-Packard Co. in selected stores, is conducting discussions with Apple, IBM Corp., Compaq Computer Corp. and Toshiba Corp. about carrying their machines.

One Egghead salesman said he had taken training courses in May on Power Macintoshes, PowerBooks and Apple peripherals. "We've been told we're ready to sell most of Apple's product line," he said.

For nearly a year, Egghead has been hashing out a plan to merchandise hardware so it can better compete with larger retailers and computer superstores. The Issaquah, Wash.-based company's hardware push will rely heavily on providing customer solutions. Users, for example, will get pointers on the relative benefits of fax-modem cards and peripherals for laptops, sources said.

The retail chain last year began carrying HP DeskJet printers in a few stores and has since added HP LaserJet 4L and Canon BubbleJet printers.

Most of Egghead's retrofitted stores are expected to range in size from 8,000 to 12,000 square feet; the first site, which is scheduled to open in Beaverton, Ore., in July, is expected to occupy 6,650 square feet.

Egghead and Apple declined to comment. □

Where to find an accelerator in 1995

COMPANY	TYPE OF ACCELERATOR
Brainstorm Products	68000 to 68030 upgrades
DayStar Digital Inc.	680x0 and PowerPC upgrades
DiiMO Technologies Inc.	680x0-based upgrades
DL Engineering	PowerBook CPU and FPU upgrades
Extreme System	680x0 to 68030 upgrades
Fusion Data Systems Inc.	Out of business
Micro Mac	68000 to 68030 upgrades
Mobius Technologies Inc.	Out of business
Newer Technology Inc.	68040 and PowerPC accelerators
Novy Systems Inc.	Out of business
Sonnet Technologies Inc.	680x0-based upgrades
Technology Works Inc.	Out of market

NEWS ANALYSIS

Accelerator market slowing down pace

By James Staten

Apple has nearly completed its transition to an all-PowerPC lineup and given its blessing to clones, yet users are still clinging to their 680x0-based Macs and boosting their speed.

"People become attached to their machines," said Bob Farnsworth, president of Sonnet Technologies Inc. of Irvine, Calif. He said there are compelling reasons to continue using 680x0 Macs; their RAM is not compatible with newer machines, and it is generally a hassle to reconfigure a system.

Not coincidentally, most companies are making the transition to Power Macintoshes not by upgrading their installed base but by passing older machines on to users with lower computing needs.

Andy Seligman, marketing manager at Brainstorm Products of Mountain View, Calif., said most users are extending older machines' lives by accelerating them and will not pay for new models.

The price users are willing to pay for an upgrade, nonetheless, has dropped significantly. Most 68030-based accelerators cost about $199 today, compared with $700 in early 1994. Prices haven't fallen as dramatically for 68040-based accelerators, but few units are priced at more than $500.

DayStar Digital Inc. is an exception. "We don't have to be half the price of the cheapest Mac; we just have to be half the price of the model they would buy," said Andrew Lewis, CEO of the Flowery Branch, Ga., company. "If that model is $4,000, we just have to be less than $2,000."

However, as Macs get older, the market for 680x0-based accelerator boards is slowing down.

Seligman, for one, has begun moving his company out of the accelerator market and into Internet services. Other vendors are tightening their belts, fighting for the remains of a market they fear may be dead in two to five years.

This summer may be a major test for the industry when a new batch of Power Macs is introduced. "This is when people are evaluating the new solution to see if it will meet their needs," said Dave Larson, principal at DL Engineering of Nevada City, Calif.

The next round of RISC-based Macs, coupled with the availability of clones, will put new and used Power Macs within the reach of many users who previously would have considered an accelerator. □

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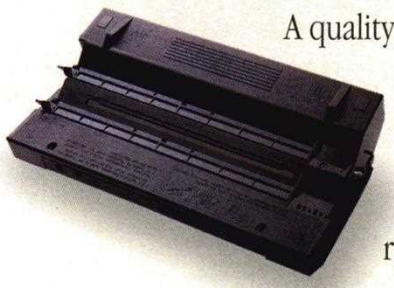

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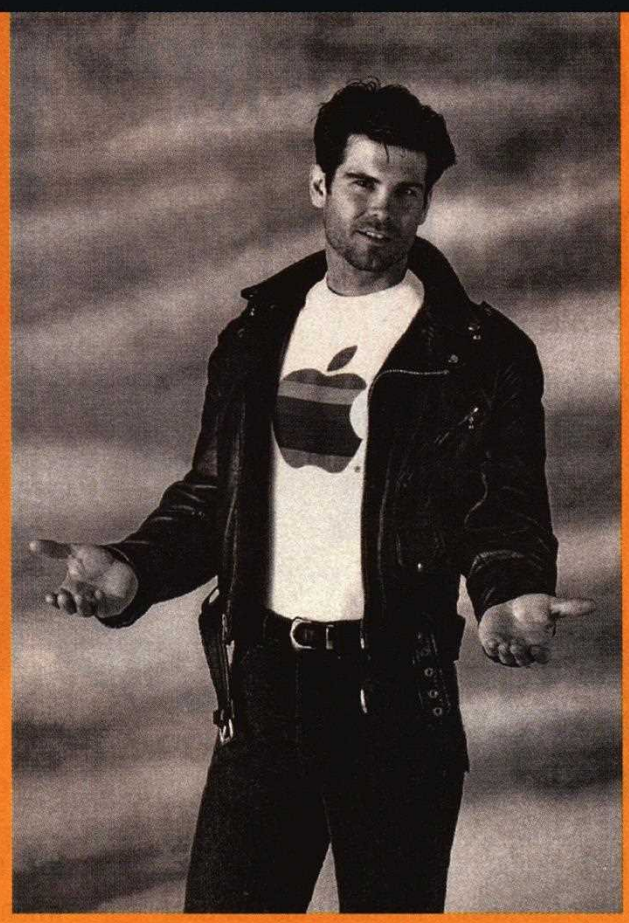

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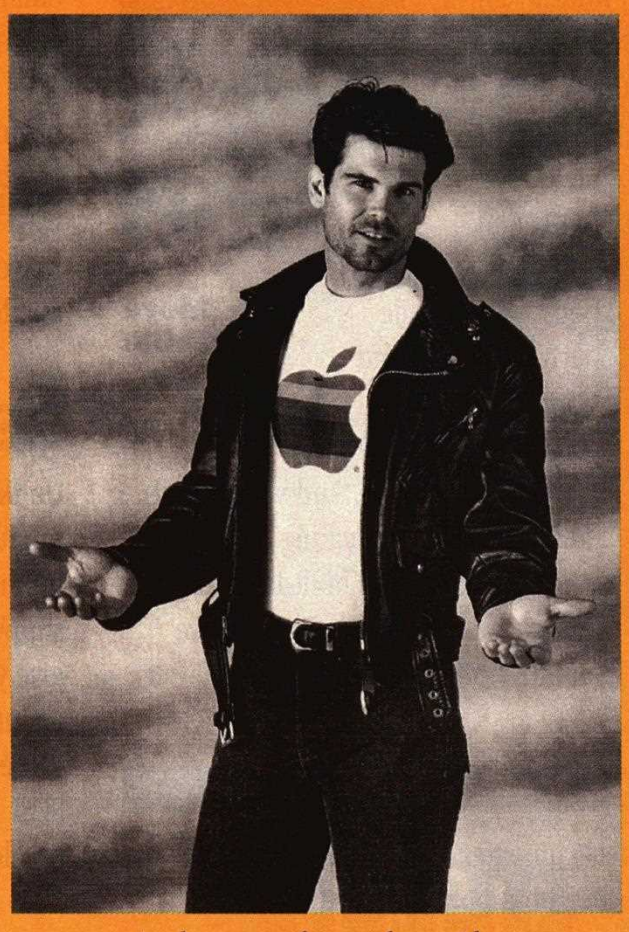

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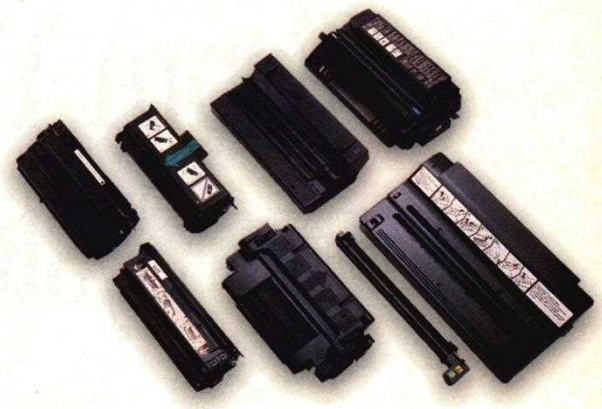

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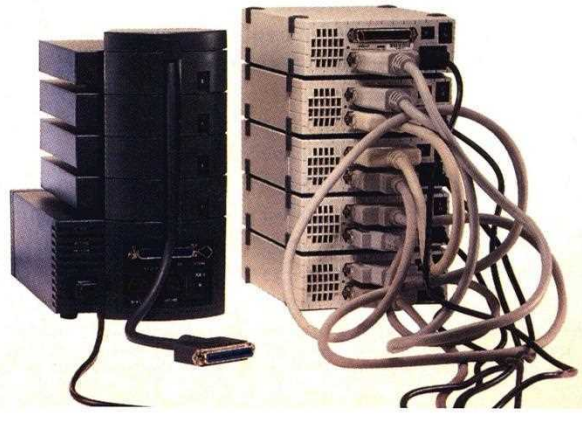

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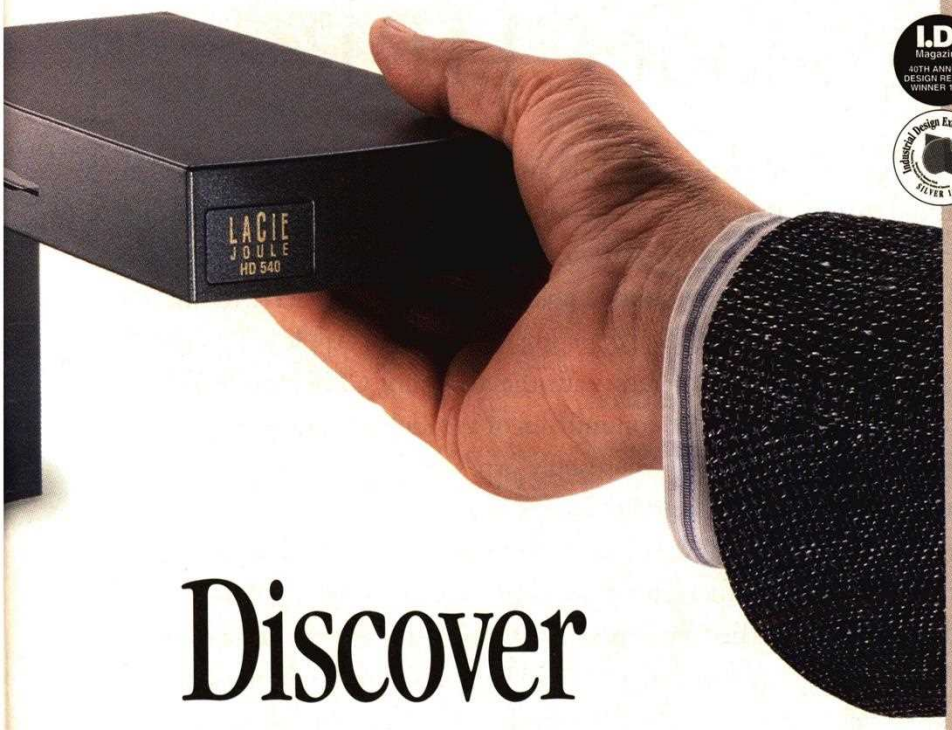

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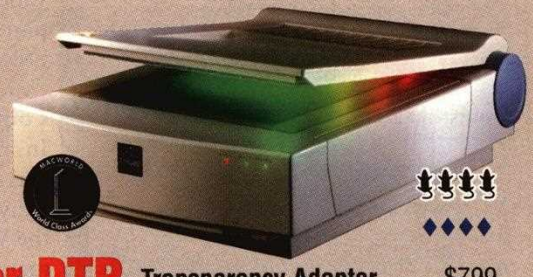

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BPA INTERNATIONAL

Thinking about CHRP

Apple's PCI Macs are just around the corner, and already people are looking ahead to the Common Hardware Reference Platform. CHRP systems are built around PowerPC, the PCI bus and other standard components. IBM Corp., Apple, Novell Inc. and other major vendors have committed resources to support the platform, which should result in CHRP-based computers by late next year.

Apple's CHRP work has already begun. David Nagel, the company's senior vice president, has said that Apple has shifted its licensing efforts toward CHRP. And engineers in Cupertino are said to be well along in designing CHRP-compliant Macs.

Will this move toward hardware standardization be perilous for the Mac OS? After all, if users can buy a machine that runs it as well as OS/2, Unix, Windows NT and possibly Windows through IBM's rumored hybrid PowerPC 615, what is the Mac's advantage?

One answer is Copland, the planned OS for CHRP machines. It should give programmers a compelling showcase for their applications. The Mac has long had that advantage, but never on systems from other vendors in a host of configurations for every conceivable market at an array of price points. We're going to have to unlearn the historical equation that "Macs = Apple = arm + leg."

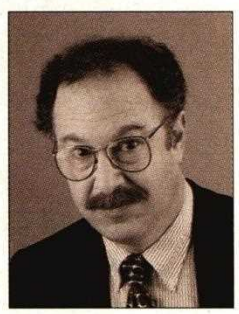
Concurrent with the arrival of CHRP and Copland will be the conundrum of Windows 95 and Pentium. We think that Microsoft Corp.'s OS will have lost its luster of newness and the company will be beating the drum for Windows NT as its legitimate successor. That promotion will fuel interest in CHRP just as Intel Corp. hits the hiatus between P6, said to be the last in the x86 family, and its next generation of CPUs. This interest will translate into sales for CHRP systems.

IBM sees the same opportunity for OS/2, but it lacks one thing: Of CHRP's OSes, only Copland will have the mass-market desktop appeal for users and developers, giving Apple a huge advantage. With good timing, the right products and a little luck, Apple's CHRP strategy could take it out of the Wintel shadow. □

THE SECOND DECADE HENRY NORR

MacIS' message: Market share requires mind share

I had the pleasure of attending the spring national conference of MacIS last month, and I came away with some observations about the Mac's position and prospects in enterprise computing.



Cool stuff

In many ways the experience was heartening. There's no denying that pressures to standardize on the Wintel platform are mounting within many large organizations, and Mac users and advocates are on the defensive.

But the conference was a reminder of another important truth: Corporate customers continue to buy Macs and do amazing things with them, and not just in the graphics, publishing and multimedia niches. One conference session featured an elegant and powerful sales-automation system recently deployed by John Deere Co.'s Power Systems division; another highlighted a suite of custom tools (running on a fleet of Mac IIci machines that just keep on ticking) at Northwest Airlines Inc.'s operations center.

I was also impressed by the attitude of Apple's representatives: candid, enthusiastic but not unrealistic and, above all, eager for input. And their progress reports on issues previously raised by MacIS suggested that the openness is not just for show; with technologies such as Open Transport and the upcoming PowerTalk 2.0, the company really is moving to address the needs expressed by its largest customers.

Getting the word out

MacIS asks its entire membership to rank the issues raised in its conference workshops, and the ballot results are not in yet. But according to my subjective reading of the mood of the meeting, what these sophisticated Mac managers want most from Apple is not so much technology as marketing.

Sure, they're as hungry as the rest of us for Copland, Cyberdog and company. But they and their users may never get to enjoy the productivity advantages these innovations promise if they don't know about them. Over and over again, attendees shared anecdotes about colleagues saying "I wish I'd known the Mac could do that" — *after* they'd committed themselves and their company's resources to competing platforms.

In a nutshell, Apple needs to increase its mind share if it hopes to expand — or even maintain — its market share.

As at the Apple Worldwide Developers Conference earlier in the month, Apple's representatives seemed to agree that the company hasn't been getting its message across and needs to become more aggressive in its marketing.

To many Mac enthusiasts — including some at Apple — that seems to mean taking more potshots at Windows. I guess that has its place in restoring the morale of Mac loyalists. But the real trick is opening the eyes of the unconvinced, and what that requires is a sustained effort to demonstrate — in concrete, dollars-and-sense, hours-and-minutes terms — the very real advantages the Mac continues to deliver. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at hnorr@ftp.macweek.ziff.com.

LETTERS

His own Copland tune

Your sneak preview of Copland (MacWEEK, May 15, Page 1) has inspired me to start my own wish list for the next Mac interface. You'll note that a couple of ideas have been swiped from other interfaces. I think turnabout is fair play!

(1) A Mac OS folder that's just known as "Mac OS." Any idiot can see that it's a folder. (2) Proportional scroll boxes à la OS/2. (3) Repositionable dialog boxes that will remember where I left them, just as regular windows do (and as Windows dialog boxes do). (4) Elimination of the resize box. In Windows, you can resize by grabbing any border. (5) Open and Save dialog boxes that initially point to the location of the current file, at least as an option. (6) A visible hot spot on the title bar that allows the user to see that item's position in the file hierarchy. We can do that now by holding down the Command key while pressing on the window's title, but how many people know it? (7) A keyboard command that will let me cycle between programs.

I'm sure other people have their own ideas. I hope Apple asks us for them in some kind of systematic fashion.

Richard S. Russell
Madison, Wis.

Copland quandary

Don Crabb is absolutely right (MacWEEK, May 22, Page 29). Unfortunately, Copland is going to be another QuickDraw GX to developers. Apple must get Copland out to meet the challenge of the great awful one from the north (that is, if Windows 95 is ever released).

In order to get Copland out in a competitive time frame, Apple must ignore 680x0 Macs and concentrate on PowerPC. And, in order to take advantage of Copland's best features, applications will have to be written specifically for it. But the bulk of the installed base is 680x0 Macs and will be for some time.

So what's a developer to do? Write four versions of everything for Windows, 680x0 Macs, Power Macs not running Copland, and Power Macs running Copland? Blow off the 680x0 Macs and sell to the tiny fraction of Mac users willing and able to run Copland? Ignore Copland and upset the people who want applications that take advantage of its features and hinder acceptance of the new OS? Quit supporting Windows? Quit supporting the Mac because it is three platforms from one company instead of one platform from dozens of companies?

The ultimate irony: Gershwin will have a hardware-independent microkernel allowing it to be ported to everybody's processor except, of course, Apple's own 680x0 machines.

Michael Gibbs
Phoenix

Who's got GeoPort now?

In the May 22 issue of MacWEEK (see pages 1 and 3) there was so much hype about the 2.0 version of the GeoPort software — that came years too late! But I couldn't find one statement about Apple removing the GeoPort from its mainstream machines. Has anyone noticed that just now two new Apple Power Mac systems came out, namely the 5200 and the 6200, and both seem to lack the GeoPort adapter? Apple plans to sell millions of these machines, but none of them supports the GeoPort Telecom Adapter kit (or any forthcoming ISDN GeoPort Adapters).

How can Apple expect Intel-standard PC vendors to integrate GeoPort in new machines if it is not able to use its own technologies? How can Apple expect GeoPort to become an industrywide standard if it doesn't use GeoPort technology in its newest and possibly best-selling machines? Shame on Apple for first developing and then forgetting one great technology after the other.

Hannes Wolf
Vienna, Austria

SyQuest alien to the Mac

I saw Carolyn Said's column (MacWEEK, May 8, Page 3). What rarely gets mentioned in the SyQuest vs. Zip drives debate is how noisy and inconvenient SyQuest drives are. Aside from being cheap, Zip drives benefit from being small, virtually silent and Mac-like, attributes that never come to mind when talking about SyQuest. I shouldn't have to write up a one-page document telling Mac users how to mount and eject SyQuest drives, but I do.

What Zips need to succeed (aside from increased production) and become a de facto standard is adoption as built-in standard equipment, which I've heard is being considered by some of the Mac clone makers.

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THE MAC MANAGER DON CRABB

Big Bill is watching you through his Windows 95

The National Rifle Association got it wrong. It's not the "jackbooted thugs" of the Bureau of Alcohol, Tobacco and Firearms that we have to worry about. It's the unethical marketing thugs of Microsoft Corp.

I'm not talking about how Microsoft squashes its little software adversaries. I'm not talking about how Microsoft preannounces products in order to kill its remaining competition. Nor am I talking about how Microsoft regularly and blatantly misinforms its customers about software bugs. None of that even raises my blood pressure anymore.

After all, what's the point? Bill Gates is going to do what the hell he pleases, whenever he pleases. Yet his company's latest escapade is beyond the pale.

What I am talking about finally crosses the line of being merely ruthless and manipulative and lands firmly on the side of being morally bankrupt.

New standards in microskullduggery

As proof, I give you the Registration wizard. This little agent (virus?) lives in thousands of beta copies of Windows 95.

And what it does is interrogate every computer on the network and gathers intelligence about its installed software and hardware. The wizard builds a list of this software and hardware for later use.

When you decide to launch your freebie demo subscription to Microsoft Network, the little bugger uploads all of this juicy data to Microsoft. So they get an instant, large-scale, FREE and accurate marketing survey of all their beta testers. Without paying them one red cent. And get this: The released version is supposed to have the same wizard in it, this time giving Microsoft targeted marketing info on millions of its customers.

If I stole the same information by using a .357 Magnum, you'd put my sorry butt in prison for 20 years. But when Microsoft does it using high tech, the company doesn't even deny it. Instead it gives us the equivalent of "Hey, don't worry, if you don't want to use the wizard, you don't have to."

Ultimately, it does not matter whether Microsoft broke any laws with the Registration wizard and the slimy way it gets info out of the computers it's installed on. The intent of the damn thing is clear: to invade the privacy of customers to suit Microsoft's needs.

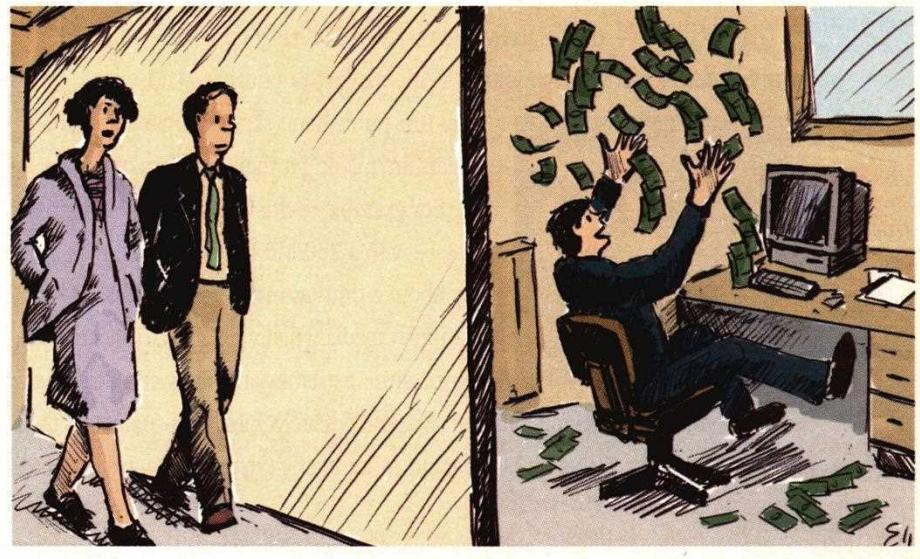
Like the bully who always stole your candy at recess, Microsoft takes what it wants because you haven't smashed it in the face when it does. It's high time we all did some serious smashing. Lockheed Missiles and Space Co. Inc. in Sunnyvale, Calif., might want to be high on that smasher list.

Another brick in the wall

Unfortunately, Lockheed can't wait to get into bed with Microsoft. Lockheed is now contemplating embracing Windows 95 while dumping its majority installed base of Macs (9,000-plus Macs vs. 3,000-plus Intel-standard PCs). It's even naive enough to think that Windows 95 PCs will save it money over comparable Mac OS platforms.

Well, Lockheed, you might want to look your imagined fiscal saviors right in the eyes as you lay nestling each other and ask Microsoft what lovely company secrets it has extracted from your beta Windows PCs with its wizard. You might find that sleeping with Microsoft requires more fastidious hygiene than you might otherwise use. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



"This morning I caught Gordon playing some silly computer gambling game."

Comments? Ideas? Contact Eli at elitoons@aol.com

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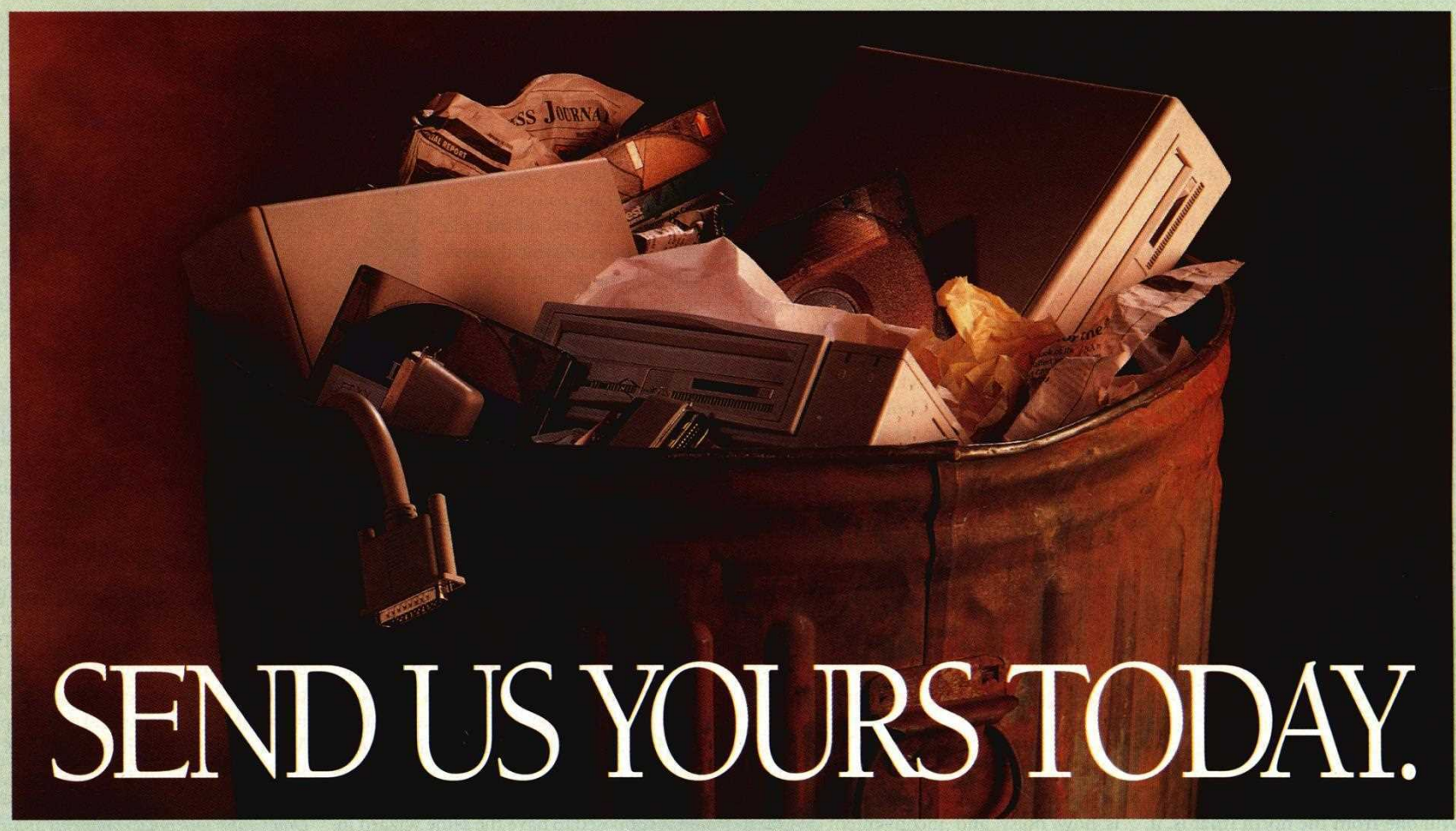

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MAC E-MAIL

E-mail programs are used on 30 percent of the Mac installed base of 18 million.

— International Data Corp.

Poser 1.0 stands tall in illo market

By Sean Wagstaff

Fractal program is essentially the equivalent of the wooden dummy on artists' desks.

Fractal Design Corp.'s Poser 1.0 is an unusual program for designing the human body, which many artists consider one of the hardest forms to draw. Essentially, it's an electronic equivalent of the familiar wooden dummy on many artists' desks. The $99 Poser, which is targeted primarily at 2-D illustrators, is a fully qualified 3-D scene-building and rendering program for positioning and rendering realistic, shaded models of humans.

Poser requires a Macintosh with an FPU (floating-point unit) or a Power Mac, System 7.0 or later, 6 Mbytes of application RAM, 5 Mbytes of hard disk space, and a color display (24-bit recommended). Poser is native on the Power Mac; the Power Mac and 680x0 versions ship in the same box.

Poser differs from other 3-D programs in that it has many features geared toward working with human models — and it's very easy to use. Poser differs from a wooden mannequin in that once you've created a rendered image, you can import it directly into an image-editing program such as Adobe Photoshop or Fractal's Painter for tracing, cloning or compositing.

Body shop

When you create a new scene, a figure in a DaVinci-style geometric pose is automatically placed in the middle of the main window. You can use the Figure Type menu to easily change this generic figure into a variety of body types, including Male Body, Female Body, Mannequin, Skeleton or Stick Figure. You can then use the Figure Height menu to automatically change the figure's proportions — from a lumpy baby to ideal adult to broad-shouldered superhero.

Poser's Tools palette allows you to make these generalizations very specific. For example, once you've selected a body type, you can use the Scale tool to expand its shoulders and biceps or to give it disproportionately big hands or a huge head. You can also change the taper of limbs and body segments.

Unlike the rest of the body, hands and feet are not articulated; you cannot control fingers and toes individually. Although you can choose one of several gestures for each hand, including Taut, Relaxed, Fist, Pointing and Flat, we would like to have more control over hand gestures and hope that Fractal at least offers a library of new hand types in a future release.

Poser's tools are intuitive and easy to use, even for novices. For greater control, you can expand the palette to reveal a set of Parameter Dials that let you make precise, value-based adjustments.

Let's twist

Once you've created a body type you're happy with, you can go about posing it. Poser's simple tools let you easily twist, rotate or move individual parts of the body. Poser actually uses quite sophisticated inverse kinematics, which means that if you pull on the hand, the forearm, shoulder and chest will bend and twist appropriately to follow the movement. While seemingly a small detail, this feature makes it much easier to create realistic human poses than any other Macintosh 3-D program can.

After the body and pose are set, you can switch to Light mode, which lets you add up to three lights to a scene and set their color and direction, and to Camera mode, which lets you adjust the view to look at the model from any angle. Poses can also

See Poser, Page 34

Fractal Poser's Tools palette lets you position parts of the selected body, the entire body, the camera that controls the current view and lights. You can use the click-and-drag tools to make changes, or rotate the parameter dials for more precise control. The Library palette contains pre-configured body types and poses.

score card

Poser 1.0

Fractal Design Corp.
List price: $99*
Overall value ◆◆◆◆

Poser is a unique tool that replaces the wooden artist's dummy with something significantly more functional. It lets you create realistic renderings of human forms, complete with the subtleties of body types, gestures, lighting and shading. It's easy to use and shouldn't pose much of a challenge even to computerphobic illustrators. Finished renderings can be easily incorporated into illustrations done in programs such as Photoshop and Painter. Admittedly limited in purpose, Poser will prove somewhat disappointing to 3-D artists who want to move posed figures into 3-D scenes, but its primary audience is illustrators, who should find it a very good addition to the digital pencil drawer.

Performance ◆◆◆◆
Features ◆◆◆◆
Ease of use ◆◆◆◆◆
Documentation/support ◆◆◆◆◆

**Through Aug. 31; $199 thereafter.*

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

Snap Mail 2.0 delivers easy, affordable messaging app

By Todd Coopee

C&G's mail package for small-office sites now offers a gateway option.

Snap Mail 2.0.1 is Casady & Greene Inc.'s first major upgrade to its plug-and-play e-mail package aimed at small to medium-sized workgroups. Building on Version 1.0's basic set of message-composition and attachment capabilities, the company has added a number of welcome new features, including an address book, mail folders, and integration with third-party gateway software for accessing and communicating with other e-mail systems.

Snap Mail's pricing structure remains reasonable for Version 2, starting at $250 for a five-user pack. Ten- and 50-user packs are also available.

The application retains the original's minimalist system requirements. It needs a Macintosh with at least 1 Mbyte of RAM and System 6.0.4 connected to an AppleTalk network. The software is also Power Mac-native and System 7.5-savvy. The entire software distribution takes up less than 500 Kbytes of disk space.

Configuring Snap Mail is quite simple. The first time the Snap Mail extension loads, a dialog asks you to enter a unique user name; this identifies your Mac to other Snap Mail users. As in Version 1.0.1 (see MacWEEK, Nov. 1, 1993, Page 51), you can set up one or more Macs as mail servers whose sole purpose is to receive, store and forward messages to other recipients. This step is purely optional, however. Without a centralized server, messages are delivered only when both parties' Macs are simultaneously online. You can also have any pending outgoing mail automatically sent to the server be-

See Snap Mail, next page

score card

Snap Mail 2.0.1

Casady & Greene Inc.
Overall value ◆◆◆◆ **List price: $250***

Snap Mail has been beefed up considerably since its previous release. New features in Version 2.0.1 include the capability to store mail in folders, a built-in address book and message sorting. The addition of Information Access Technologies' HoloGate, an external e-mail gateway, should placate sites looking to provide compatibility with other e-mail packages and send mail onto the Internet. The lack of a cross-platform product still remains a drawback, however. While many of the more popular commercial e-mail packages provide most of the features found in Snap Mail, we still believe it can be the right fit for small to medium-sized sites looking for an inexpensive e-mail solution.

Performance ◆◆◆ **Ease of use** ◆◆◆◆
Features ◆◆◆ **Documentation/support** ◆◆◆◆

** For five-user pack; 10-user pack, $420; 50-user pack, $1,940. Five-user pack bundled with HoloGate, $395; 10-user bundle, $575; 50-user bundle with unlimited HoloGate sites, $2,340.*

Snap Mail

From previous page

fore your machine is shut down — a particularly handy option for remote users who dial into the network via Apple Remote Access on an irregular basis.

From me to you

Snap Mail's main window is divided into an InBox, for reading, deleting and replying to delivered mail, and an OutBox, for composing and sending new messages. Unlike the previous version, you can now resize and zoom the main window to full-screen size.

The OutBox still sports the familiar Icon bar, Text window and User list. Snap Mail 2, however, contains several new options that are available when you create an e-mail message. For instance, besides sending mail to a primary receiver, you can now send carbon copies and blind carbon copies.

To improve readability, the message text's font and size can now be edited. Using any available system font, text size can range from 9 points to 18 points.

Control buttons that affect the OutBox have also been enhanced. The Paper Clip lets you enclose entire folders as well as individual files and aliases. Attachments, however, are still limited to a total of 15 Mbytes.

A new Pencil and Envelope button allows you to access a built-in address book where you can maintain e-mail addresses and create shortened versions, or Nicknames, of addresses. Nicknames can be a real timesaver when sending e-mail to users with long or cryptic e-mail addresses.

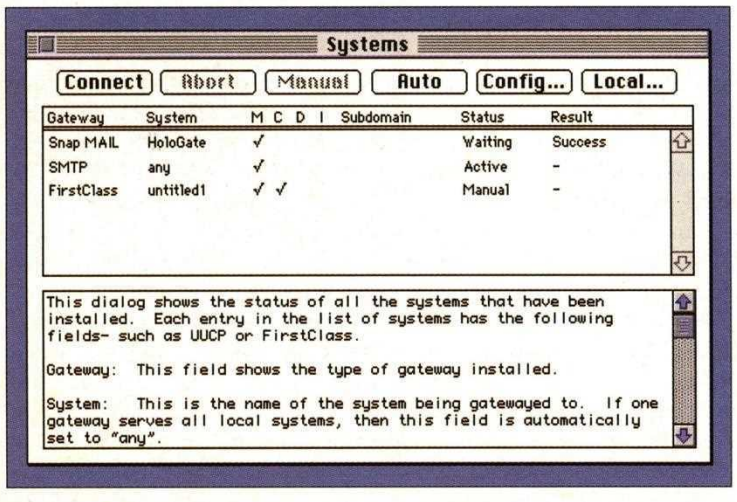
The address book automatically contains the names of all other Snap Mail users on the network. Users integrating Snap Mail with e-mail gateway software can also add e-mail addresses from remote mail systems. Two key sequences (Command-I and Command-E) allow you to import and export address lists in comma-delimited format to and from the Clipboard. While using the key sequences is easy, it would be nice if there were buttons in the address book to perform the same tasks.

The Icon bar lets you attach notification icons, such as a Phone or Calendar, to outgoing mail messages. When recipients receive your mail, the icon flashes over their Apple menu icon. To create your own icons in Version 1, you had to use the program's rudimentary Fat Bits editor. Version 2 lets you import icons created outside of Snap Mail. Icons can also be linked to rudimentary text-based forms.

On the receiving end

Snap Mail 2 overcomes Version 1's lack of message organizational options by letting you create folders to store groups of similar messages. You can easily create and delete new folders as well as transfer selected messages between folders.

The program now features icons that denote the status of individual mail messages. New mail messages automatically receive a status of Unread, indicated by an arrow. Mail offset with an "R" indicates a reply; an "F" indicates that the mail was forwarded. In addition, you can flag outgoing mail with "*" or "!" to indicate that it is important.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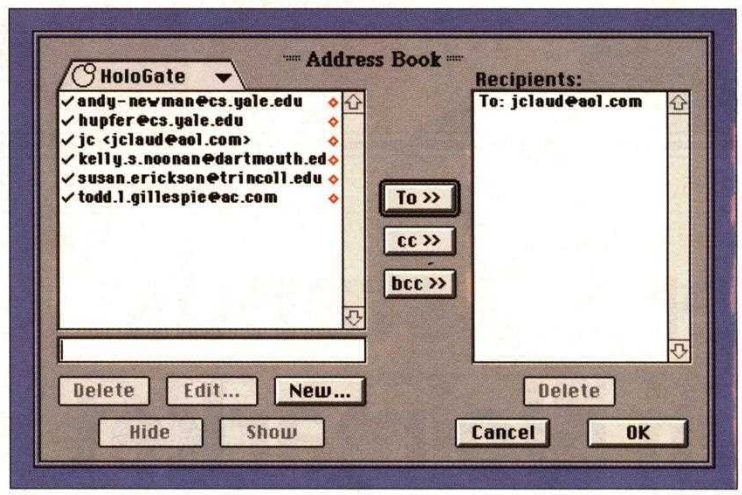
Gateway System M C D I Subdomain Status Result
Snap MAIL HoloGate √ Waiting Success
SMTP any √ Active -
FirstClass untitled1 √ √ Manual -
This dialog shows the status of all the systems that have been installed. Each entry in the list of systems has the following fields- such as UUCP or FirstClass.
Gateway: This field shows the type of gateway installed.
System: This is the name of the system being gatewayed to. If one gateway serves all local systems, then this field is automatically set to "any".

Snap Mail 2 users who purchase the HoloGate bundle can use the Systems dialog to set up and modify gateway preferences. To aid in configuration, HoloGate provides a scrolling Help window.



The new address book in Casady & Greene's Snap Mail 2 lets you store and maintain a database of e-mail addresses. By using Command-key sequences, you can also import and export address lists to and from the Clipboard.

You can now view mail based on a variety of criteria. Version 1 displayed incoming mail only by the order in which it was received; Snap Mail 2 lets you view by the date sent, sender, subject, icon, type and status as well.

Other new InBox features include a Find function that lets you search through the entire text of all mail messages for a particular string or just search through the subject lines of each message. While Boolean searches are not available, case-based searching is allowed. Additionally, Snap Mail 2 lets you use Apple's Speech Manager to have mail read aloud.

> Snap Mail 2 has external Mac gateway software, which allows users to send mail to a number of other e-mail systems.

E-mail gateways

The biggest drawback in Snap Mail 1 was its lack of any supported e-mail gateway; it restricted Snap Mail users to communication only with each other.

Casady & Greene has addressed this limitation by integrating Snap Mail 2 with external Mac gateway software — HoloGate from Information Access Technologies Inc. HoloGate can be outfitted with a number of modules that, when configured, allow messages from within Snap Mail to be sent to users of SoftArc Inc.'s FirstClass (see MacWEEK, May 29, Page 28), Microsoft Mail for AppleTalk, Res Nova Corp.'s NovaLink, CE Software Inc.'s QuickMail and the Internet.

The price of HoloGate is not included in the original cost of Snap Mail; however, Casady & Greene offers a number of reasonably priced bundles.

We configured the HoloGate software with the FirstClass, Snap Mail and SMTP modules. Overall, the process was easy, consisting of entering information such as our site's domain name and time zone and our gateway preferences into several dialogs.

To assist in configuration, HoloGate provides a scrolling Help window on each setup screen that describes each field in detail.

Performance

To test Snap Mail 2's mettle, we installed it on several networked Macs: a Mac SE with 4 Mbytes of RAM running System 7.1, and a Performa 636, Quadra 610, Quadra 950 and Power Mac 7100 with 16 Mbytes of RAM running System 7.5. (For testing purposes, we used the Performa 636 as our mail server.) The local network consisted of more than 800 machines running on a mix of Ethernet and LocalTalk.

For the most part we found Snap Mail 2's performance to be slightly better than the original version's. Because the Snap Mail desk accessory runs in native mode, the software was a bit more snappy on the Power Mac. As in Version 1, we did take a slight performance hit when the number of messages in the InBox surpassed 500. We easily solved this problem by moving masses of messages into different folders. Casady & Greene discourages storing more than a total of 2,000 messages in all folders.

Documentation and support

The Snap Mail manual, which has been amended to include descriptions of Version 2's new features, is as clear and concise as the original. Adequate on-line and balloon help is also available from within the program. Technical support is still free via fax or a toll call. Support is also offered through America Online, AppleLink, CompuServe and the Internet.

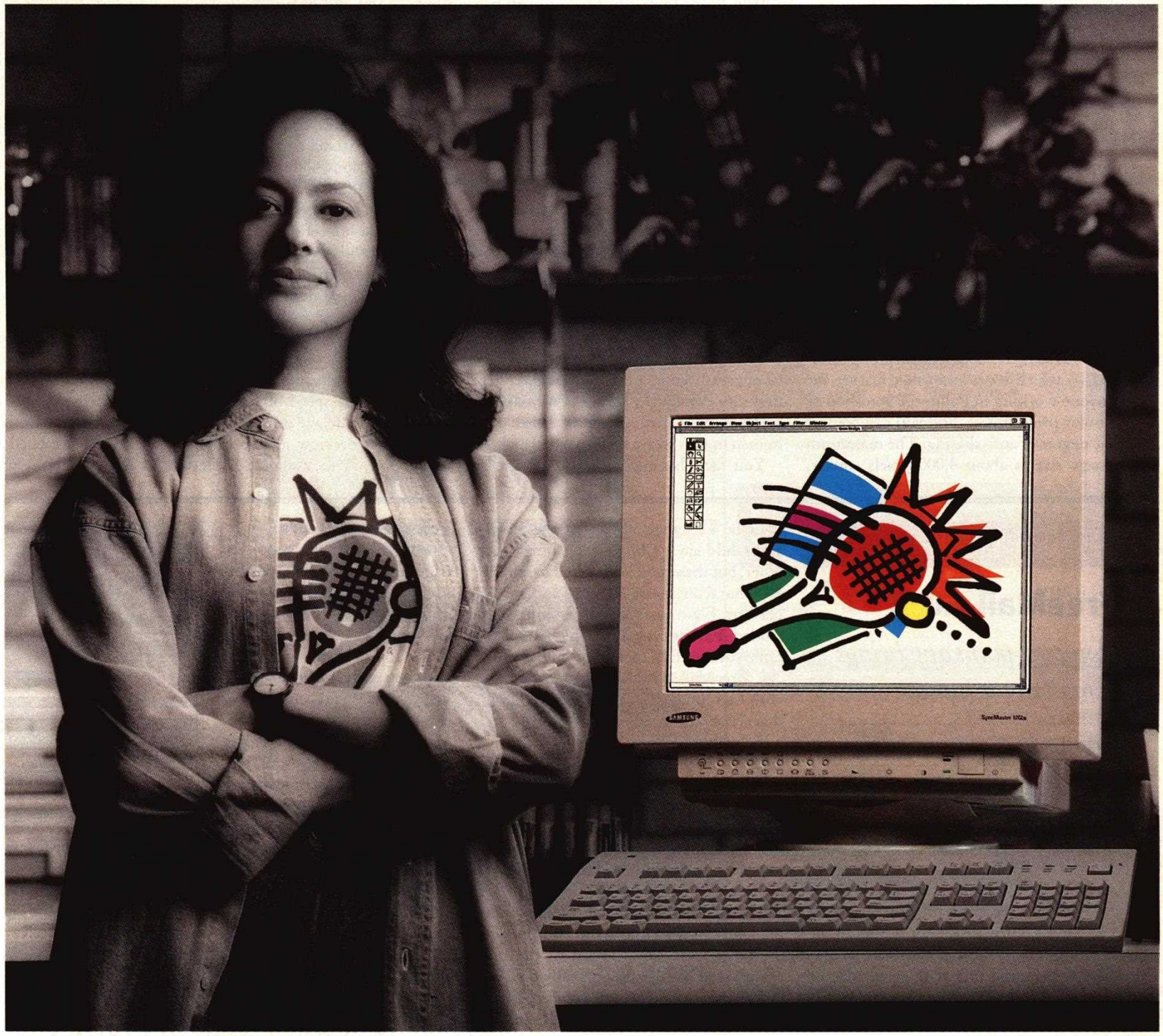
Conclusions

Snap Mail 2 is a significant improvement over its previous version, offering more features while still retaining its ease of use and inexpensive price. More-powerful attachment capabilities and message-creation options add flexibility to the product. Present users should definitely upgrade. Snap Mail still suffers from the lack of a cross-platform option, which may trouble some sites. However, the addition of an external Mac e-mail gateway to the mix could alleviate some of these concerns, albeit at an additional cost.

Nonetheless, Snap Mail remains a strong choice for sites with a large base of Macs or for small and medium workgroups looking to dabble in e-mail for the first time.

Casady & Greene Inc. of Salinas, Calif., is at (408) 484-9228 or (800) 359-4920; fax (408) 484-9218; C&G@casadyg.com. □

Samsung.
Mac's new point of view.



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Maximum Refresh Rate at Maximum Res. (Hz)	75	75	75	75
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Power Management	•	•	•	•
Flat Square Screen		•	•	•
On-Screen Programming			•	•
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Warranty	2 Years	2 Years	2 Years	2 Years

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Poser

From Page 31

be augmented by a few simple props that Fractal threw in, including a ball, box, cane and stairs.

You can save body types, poses, lights and cameras in separate libraries that are easily accessible from Poser's Library palette. This can save you a lot of time and effort. If, for example, you create a character such as Fat Joe the Mechanic, you can place him into scenes whenever needed. Similarly, you can apply a saved pose such as The Thinker to an unusual body, such as Skinny Jane. You can also choose from a variety of included bodies, poses, lights and cameras.

Render the man

Poser has numerous rendering options. The program performs smooth Phong shading, and its quality is very good. Poser automatically renders with an alpha channel — which is an important feature for anyone working in Painter, Photoshop or similar programs — and you can control the degree of anti-aliasing. The maximum image size is about 4,000 pixels square, which is adequate for most uses. Poser keeps all of a body's parts together and takes care of smoothing the joints between them during rendering. Only occasionally, such as at the joint between the thigh and hip, can you see errors in the program's skinning of a model.

Changing a figure's surface properties is not very easy, and many 2-D illustrators without 3-D graphics experience will be baffled by the bump maps and texture maps needed to change a model's skin or add clothing. Poser comes with a few surface material maps (such as a skin-tight leotard), but you'll probably have to create or edit your own surface in an image-editing program to customize the appearance of your model.

Most users will export finished renderings as PICT files and then import them into Painter or Photoshop for compositing with foreground and background art. Fractal obviously hopes users will bring renderings into Painter. In Painter, this makes it pretty easy to turn rendered poses into human figures with a hand-painted look.

You can also export posed models in RIB (Renderman Interface Bytestream) for use with Pixar's Showplace or DXF (Drawing Interchange File) for use in other 3-D programs.

However, much of the detail in the models is contained in the integral bump maps, and these don't make the translation using any of the supported file formats. In addition, once you export a pose, it's fixed as a single block of polygons. You can't, for example, open a saved pose in Macromedia Inc.'s MacroModel and continue to work with the various body parts individually. These limitations are a perfect example of why Apple has created the 3-D metafile format. We hope Fractal and other 3-D companies will adopt the standard, so features such as texture maps and lights will be supported in translation.

Performance

While creating a model, Poser allows you to work in a variety of preview modes, depending on the speed of your Mac. On a Power Mac 7100, we were able to work in shaded box preview all the time, which makes it easy to visualize the effect of changes. In general, we found the program's performance acceptable on a Power Mac but slightly sluggish on a Quadra 950.

Documentation and support

Poser's manual is very good and humorously illustrated. Free technical support is provided by phone or on-line.

Conclusions

Poser 1.0 is a unique program that neatly fills a niche that many people probably never realized existed. It is easy to use and will be a great help to artists who need to create realistic human forms, complete with the subtleties of perspective and gesture. We can think of a lot of features we'd like to add to the program, such as a smoother way to change a model's surface appearance and animation support. On the other hand, we don't have any serious complaints about it. If you need to create human forms for illustrations, Poser is a very good value.

Fractal Design Corp. of Aptos, Calif., can be reached at (408) 688-5300; fax (408) 688-8836; www.fractal.com. □

IN BRIEF

FreeMail 4.0

Point-to-point app brings e-mail to the masses

Overall value ♦♦♦♦

If your computer is connected to a LAN, e-mail is probably something you take for granted. However, if you use a stand-alone computer or spend a great deal of time disconnected from a network, effective use of e-mail can be a bit more challenging. FreeMail Inc. recently brought its $74.95 FreeMail 4.0 private e-mail system to the Macintosh, enabling Mac users to exchange mail and files with other Mac or Windows users without needing a network, BBS, the Internet or other commercial on-line service.

FreeMail uses point-to-point connections, via modem and standard phone lines, to exchange e-mail between sites. In itself, this is no real technical feat, since you could easily cobble a means of doing so with any of a variety of communications packages. FreeMail's advantages stem from its simplicity and its capability to easily exchange messages, files and voice-mail recordings.

FreeMail 4 runs on any Mac with a minimum of 2 Mbytes of free RAM. It works best with a color display.

Family affair

FreeMail comes in two flavors: the basic $74.95 version and the Extended Family version, available for a limited time for $199.95. In the basic version, you set up a Parent site on one Mac and then create an unlimited number of Child disks that you can distribute freely to anyone. Mail can then be exchanged between the Parent and Child sites. Child sites can call each other, but these sites are limited to sending 400-character messages only and cannot perform file transfers. We tested the Extended Family version, which uses the same parent-child metaphor but lets up to 200 FreeMail Child sites communicate with each other through a central Parent that acts as an e-mail router.

To create a parent site, you perform a simple one-disk installation, launch the program, and specify a site name and basic modem information. Once you've set this up, you can easily create and distribute Child installation disks, which are automatically preconfigured to call the Parent to exchange mail.

You can connect to other sites either manually by selecting a site and pressing the large Call Now button in the program's icon bar or automatically on a set-polling interval. FreeMail's polling schedule is very flexible, allowing you to call at a set amount of minutes or at specified times every day, week or month. You can also set times when you will explicitly not accept calls from other FreeMail sites.

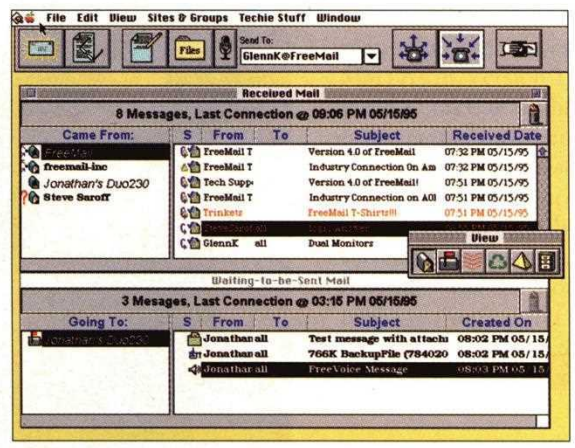
Take a message

FreeMail uses a store-and-forward mechanism to exchange e-mail messages. To minimize connect time, all work is done off-line, meaning you create and read messages while disconnected from other FreeMail sites. You address messages via FreeMail's address book, which maintains a list of the people and sites with which you have communicated.

Messages are plain text-only but can have one or more attachments. Mail and attachments are compressed by default to minimize transmission time. When you send an attachment, FreeMail estimates how long it will take to transmit the file to the Parent site — just one of the nice touches we found throughout FreeMail.

Voice mail and more

One of FreeMail's more intriguing features is its capability to exchange recorded voice messages in addition to text. Clicking on the FreeVoice icon at the top of your screen presents you with a voice recording dialog where you can record a message by speaking into your Mac's microphone. While you are recording, FreeMail tells you how long your message is and estimates how long it will take to transfer it to another site. FreeMail automatically converts sound files between Mac and Windows formats.



FreeMail uses a multiwindow interface to display various messages, including ones that you have sent, received, discarded or filed, as well as ones that are waiting to be sent. Large buttons at the top of the display are used to create, read, send or receive messages.

FreeMail also lets you lock a message so that a password is required to read it. This is important when messages are directed to a site to which many people have access rather than to a specific individual.

Our only real complaint about FreeMail is that because the company used a cross-platform compiler from Microsoft Corp. to port its application from Windows, it has a vaguely un-Mac-like feel to it. While the port is not as blatant as some we have seen, some interface nuances, such as using a Control-click to simulate a second mouse button, may be difficult for some Mac users to get accustomed to.

Documentation and support

Our biggest frustration when using FreeMail stemmed from a lack of Mac-specific documentation other than a quick-reference card. The manual that shipped with the version we received referred to Windows only. FreeMail said that a Mac manual is in the works and should be completed shortly.

Technical support from FreeMail was excellent. We uncovered a few bugs during our evaluation, and the folks at FreeMail were able to fix them and send us a new version of the application within a few hours.

Conclusions

FreeMail 4 is an intriguing application. For those familiar with LAN-based e-mail systems, it may seem arcane to consider a messaging product that relies on point-to-point dial-up links. However, if you need to communicate with users not directly attached to your network, FreeMail offers a very economical solution compared with using either remote clients for your e-mail system or gateways to external mail systems. We are also impressed by FreeMail's many elegant features, such as FreeVoice, compression and locked messages. The company has said it will add some LAN-based functionality to FreeMail in a future release. In the meantime, it is well-suited to any organization that wants to set up an easy, inexpensive e-mail link between Macs and Intel-standard PCs without having to maintain a network.

FreeMail Inc. of Bozeman, Mont., is at (406) 586-4200; fax (406) 586-4336; freemail@aol.com. — *By Jonathan A. Oski*

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1 What is your organization's primary business activity at this *entire* location?
(Select one only) Write Answer Here ➨

Non-Computer Related
01. Graphic Arts
02. Publishing
03. Advertising, Public Relations, Promotion
04. Digital Media Development
05. Entertainment/Broadcast
06. Commerical Printer
07. Service Bureau/ Pre-Press
08. Aerospace
09. Architecture, Engineering
10. Telecommunications
11. Government
12. Manufacturing
13. Education: College/ University/Trade
14. Education: High School/Elementary
15. Finance: Banking, Accounting, Insurance, Real Estate, Legal
16. Health, Medical
17. Non-Computer Retailer, Wholesaler, Distributor
18. Research and Development
19. Agriculture, Mining, Construction, Oil
20. Transportation, Utilities

Computer Related
22. Manufacturer (Computers, Software, Peripherals)
23. VAR, VAD, Systems/ Network Integrator
24. Retailer/Distributor
25. Systems House/Data Processing Service
26. Computer Consultant
27. Other Businesses and Services
99. Other_____ (please specify)

2 What is your job function?
(Select one only) Write Answer Here ➨

A. Networking/Data Communications
B. MIS/DP/Information Systems
C. Systems Engineering
D. Telecommunications
E. Graphic Arts/Design
F. Production/Pre-Press
G. Video Production
H. Audio Production
I. Communications/ Publishing/Public Relations/Advertising
J. Engineering/Architecture
K. Science/Research & Development
L. Education/Training/ Development
M. Manufacturing/ Operations/Production/ Quality Control
N. Administration/ Management/Personnel
O. Accounting/Finance/ Legal
P. Sales/Marketing
Q. Purchasing
R. Consulting
Z. Other_____ (please specify)

3 Which of the following brands of systems and/or applications software do you have installed at this *entire* location? (Check all that apply)

Operating Systems
☐ 01. System 7
☐ 02. System 6, 5 or earlier
☐ 03. Unix/Xenix/AUX/AIX
☐ 04. PowerOpen
☐ 05. Windows
☐ 06. NeXTStep
☐ 07. Solaris
☐ 08. OSF/Motif
☐ 09. Other_____ (please specify)

Network Operating Systems
☐ 11. Novell NetWare
☐ 12. Unix/NFS
☐ 13. LAN Manager
☐ 14. Banyan VINES
☐ 15. AppleShare
☐ 16. DEC PathWorks
☐ 17. Other_____ (please specify)

Groupware
☐ 19. Lotus Notes
☐ 20. Windows for Workgroups
☐ 21. FirstClass
☐ 22. Novell GroupWise
☐ 23. Apple Open Collaboration Environment (AOCE)
☐ 24. Other_____ (please specify)

Database Engines
☐ 26. Oracle
☐ 27. Sybase SQL Server
☐ 28. Ingres
☐ 29. Informix
☐ 30. 4D Server
☐ 31. DB2
☐ 32. Other_____ (please specify)

On-Line Services
☐ 34. America Online
☐ 35. Compuserve
☐ 36. e-World
☐ 37. Prodigy
☐ 38. Internet
☐ 39. Delphi
☐ 40. Genie

4 Please indicate the quantities of the computers currently installed and indicate the computers planned for purchase in one year at this *entire* location.

(Write in accurate quantities for all that apply)	Currently Installed (Quantity)	PLAN TO PURCHASE
Macintosh/Compatible		
Apple Power Mac 8100	1.	1. ☐
Apple Power Mac 7100	2.	2. ☐
Apple Power Mac 6100	3.	3. ☐
Radius Power Mac Compatible	4.	4. ☐
Power Computing Power Mac Compatible	5.	5. ☐
Daystar Power Mac Compatible	6.	6. ☐
Other Power Mac Compatible	7.	7. ☐
Macintosh Quadra	8.	8. ☐
Macintosh Centris	9.	9. ☐
Macintosh Performa	10.	10. ☐
Macintosh PowerBook	11.	11. ☐
Macintosh Duo	12.	12. ☐
Macintosh Other (II, LC, SE, etc...)	13.	13. ☐
Other Mac Compatible	14.	14. ☐
Other Desktops		
IBM/Compatible Desktop/Laptop/Notebook	15.	15. ☐
PowerPC (Non-Mac Compatible)	16.	16. ☐
Workstation (SPARC, MIPS, HP/Apollo, etc)	17.	17. ☐
Other Microcomputers	18.	18. ☐

USE NUMBERS ONLY

5A How many servers are installed at this *entire* location? (Use numbers only)

5B How many LANs are installed at this *entire* location? (Use numbers only)

5C How many Macintoshes are connected to the LANs indicated in Question 5B above? (Use numbers only)

6 If applicable: how many Macintoshes are sold, resold, or recommended in one year at this *entire* location?

A. Retailer: Number sold per year_____
B. Reseller: Number resold per year_____
C. Consultant: Number purchased by your clients through your firm's recommendation per year_____
D. Other: Number sold/resold/recommended per year_____
☐ E. Not Applicable

7A Which of the following Macintosh-related products do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Systems
☐ 01. Apple Macintoshes
☐ 02. Mac Compatibles
☐ 03. IBM Compatible Micros
☐ 04. Servers
☐ 05. Workstations
☐ 06. Minis/Mainframes
☐ 07. Newton PDA
☐ 08. Pen-Based Computers

Networking
☐ 10. LANs
☐ 11. WANs
☐ 12. Mac to PC Links
☐ 13. Mac to Mini/ Mainframe Links
☐ 14. Mac to Unix Workstation Links
☐ 15. Modems
☐ 16. Communication/ Network Software
☐ 17. Bridges/Routers/ Gateways
☐ 18. Hubs
☐ 19. NICS

Printers
☐ 21. Laser
☐ 22. Color Laser
☐ 23. InkJet
☐ 24. Color InkJet
☐ 25. Dye Sub
☐ 26. Thermal Wax
☐ 27. Plotter
☐ 28. Portable Printer

Image Input
☐ 30. Digital Camera
☐ 31. Flatbed Scanners
☐ 32. Handheld Scanners
☐ 33. Slide Scanners
☐ 34. Drum Scanners
☐ 35. Black/White Scanners

Displays
☐ 37. 14 inch
☐ 38. 15 inch
☐ 39. 17 inch
☐ 40. 21+ inch
☐ 41. LCD Projection Panel
☐ 42. Presentation Monitors

Peripherals
☐ 44. UPS
☐ 45. External Speakers
☐ 46. Input Devices
☐ 47. Video Deck
☐ 48. Image Setter

Storage
☐ 50. Photo CD
☐ 51. Magneto Optical
☐ 52. RAID
☐ 53. Hard Drive 1 Gig +
☐ 54. Hard Drive < 1 Gig

Add-In Boards
☐ 56. CD Recorder
☐ 57. Memory Boards
☐ 58. Display Boards
☐ 59. Video Digitizer Boards
☐ 60. Accelerator Boards
☐ 61. Sound Boards
☐ 62. MIDI
☐ 63. Video Capture/ Compression

99. ☐ None of the above

Signature_____

Title _____ Date ___/___/___

7B Which of the following systems and/or applications software do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Graphic Arts
☐ 01. Desktop Publishing
☐ 02. Electronic Publishing
☐ 03. Painting/Drawing Programs
☐ 04. Photo Retouching
☐ 05. Page Layout
☐ 06. Illustration Programs
☐ 07. Fonts
☐ 08. Pre-Press
☐ 09. Color Management
☐ 10. Digital Video
☐ 11. Other_____ (please specify)

Multimedia
☐ 13. Authoring Software
☐ 14. Video Editing
☐ 15. Sound Editing
☐ 16. Music Composition/ Editing
☐ 17. Animation
☐ 18. Clip Media (Sound and Art)
☐ 19. Other_____ (please specify)

Presentation Graphics
☐ 21. Presentation Software
☐ 22. Multimedia Presentations
☐ 23. Charting Programs
☐ 24. Other_____ (please specify)

Design/Engineering
☐ 26. CAD/CAM
☐ 27. 2/D - 3/D Modeling
☐ 28. Simulation
☐ 29. Other_____ (please specify)

Business Applications
☐ 31. Word Processing
☐ 32. Spreadsheets
☐ 33. Databases
☐ 34. Project Management
☐ 35. Accounting/Payroll
☐ 36. Groupware
☐ 37. Desktop Video Conf.
☐ 38. Document Management
☐ 39. Mapping/GIS
☐ 40. Pen-Based Applications
☐ 41. Other_____ (please specify)

Systems Management
☐ 43. Operating Systems
☐ 44. Utilities
☐ 45. Applications Development
☐ 46. CASE
☐ 47. Programming Languages
☐ 48. Compliers
☐ 49. SQL Applications
☐ 50. Client Servers Applications
☐ 51. Other_____ (please specify)

99. ☐ None of the above

8 If you indicated purchasing involvement for computers, computer products or services in Question 7A or Question 7B, for how many Macintoshes do you have this involvement? (Select one only) Write Answer Here ➨

01. 2000+ | 02. 1000-1999 | 03. 500-999 | 04. 100-499 | 05. 50-99 | 06. 20-49 | 07. 10-19 | 08. 5-9 | 09. 1-4 | 99. None

9 For what applications are the Macintoshes at your location used? (Check all that apply)

☐ 01. Graphic Arts
☐ 02. Presentation Graphics
☐ 03. Multimedia
☐ 04. Design/Engineering
☐ 05. Business Applications
☐ 06. Systems Management
☐ 99. Other_____ (please specify)

10 Over the course of one year, do you specify, recommend, buy, or approve the purchase of host systems, desktops, networking products, peripheral equipment and/or software worth: (Write number in box)

1. $5,000,000 or more
2. $2,500,000 to $4,999,999
3. $1,000,000 to $2,499,999
4. $600,000 to $999,999
5. $400,000 to $599,999
6. $200,000 to $399,999
7. $100,000 to $199,999
8. $50,000 to $99,999
9. $25,000 to $49,999
10. $10,000 to $24,999
11. Less than $10,000
99. None

Product Category	For this location (Write number in box)	For other locations (Write number in box)
Host Systems (Mainframes/Minis)	A.	G.
Desktops/Portables (Micros/Workstations)	B.	H.
Networking Products (include Servers)	C.	I.
Peripheral Equipment	D.	J.
Software Products	E.	K.
Service/Support	F.	L.

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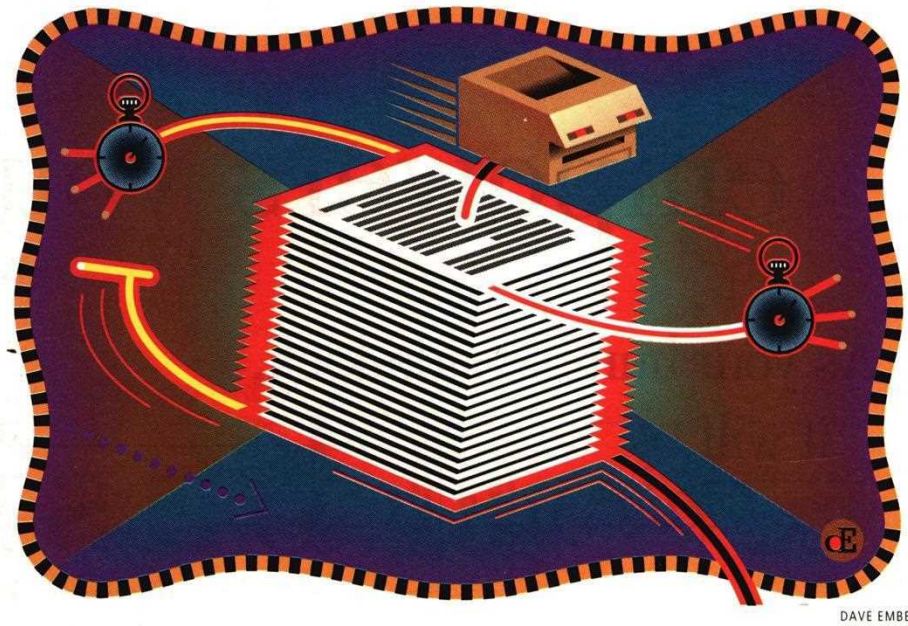


DAVE EMBER

By Stephen E. Cummings

Heavy-duty printers put out more pages per month, but the cost is dear.

The case for the high cost of midrange printers is compelling where there is a clear need for fast, high-volume text printouts. Printers in the 30- to 60-page-per-minute range far exceed the performance of the smaller but better-known workgroup models that output less than 20 ppm. Although they aren't nearly as fast as mainframe printers, which run at 400 ppm or faster, midrange machines are better adapted to small network printing environments.

While print speed defines the category, fast output is only one of the qualities that separate midrange printers from workgroup machines. Heavy-duty design allows these printers to run almost continuously, turning out 200,000 pages a month and up — far more than the 75,000-page-per-month limit typical with workgroup models. High input and output paper capacity and sophisticated paper-handling options are characteristic as well. Of course, these machines are much larger and heavier than workgroup printers, and they cost a great deal more, from $11,000 to more than $90,000.

The pickings are slim when it comes to printers in the 30- to 60-ppm range. At Macintosh shops, perhaps the most popular are the Departmental Print System series from QMS Inc. and the Typhoon printers from by Data Products Corp.

The QMS line includes three models, the 3225, 3825 and 4525, rated at 32, 38 and 45 ppm, respectively. Engineered for networking, all three models accept optional cards for direct connection to Ethernet and token-ring and have standard AppleTalk, serial and parallel interfaces. All installed interfaces can receive data simultaneously.

The QMS printers emulate a variety of printer languages, such as PostScript Level 2 and HP PCL 5 (used in Hewlett-Packard Co.'s LaserJet line). All models include Emulation Sensing Processor technology, which detects the language used in an incoming print job and switches automatically to the appropriate printer emulation.

Besides print speed, the three QMS models differ in several key areas. Recommended duty cycle for the flagship machine, the 4525, is 650,000 pages per month, while the two slower models are rated at 200,000 pages per month. The 4525 also boasts a variety of sorting output bins, unavailable on the other models, and includes two-sided, or duplex, printing as a standard feature. Maximum resolution is 400 dpi for the 3225, 600 dpi for the 3825, but only 300 dpi for the 4525.

Paper power

At The New Yorker magazine, in-house print volume increased with editor Tina Brown's arrival two years ago. The increase justified the purchase of a QMS 3225. The New Yorker had switched years ago from traditional typesetting and layout methods to electronic production using Adobe PageMaker on the Mac. But since paper has remained the medium of choice for editing and proofreading chores, a new editorial mandate for timely copy sent the volume of proof pages soaring and, in turn, made a faster printer a necessity.

According to Jeff Graves, systems director for The New Yorker, the decision to purchase the 3225 printer was just a matter of getting the pages through faster.

"With Tina Brown as the new editor, there are a lot more last-minute changes," Graves said. "The magazine might look one way on Tuesday and completely different by Friday. We need to be able to tear it apart and get a new version printed very quickly, and we couldn't do that with the older, slower printers." Since The New Yorker's content is primarily textual, it's important that the 3225 performs at near its rated speed on long runs of proof pages, Graves said.

Print storm

As their names suggest, Data Products' Typhoon 30 and Typhoon 60 models output a rated maximum of 30 ppm and 60 ppm, respectively. As with the QMS line, however, speed isn't the only difference between the two models. The Typhoon 60's duty cycle of 1 million pages per month far outpaces its less-capable sibling, rated at 200,000 pages per month. Optional on the Typhoon 30, duplex printing comes standard with the Typhoon 60.

Buyers pay dearly to get the Typhoon 60's productivity benefits. Its base price is a whopping $91,000, compared to a relatively modest $18,195 for the Typhoon 30. Otherwise, the two models are comparable.

Typhoon printers, however, offer fewer connectivity options than the QMS line. Token-ring and AppleTalk interfaces are not available, and direct Ethernet connections are supported via an optional card. Fewer printer emulations are provided, although the list includes PostScript and PCL 5. Both machines deliver a maximum resolution of 400 dpi.

Both Typhoon models also include Data Products' Virtual Printer Technology, which allows the network manager to set up

See Solutions, next page

Real-life performance

For anyone considering a move up to a faster network printer, it's critical to gauge performance under real-life conditions, especially with typical Macintosh applications. Performance on a network generally suffers compared with that over direct connections. Printers that pump out plain text at breathtaking speeds may fall behind much slower machines when printing complex graphics.

Take the recent experience of Genentech Inc., a biotechnology firm headquartered in South San Francisco, Calif. The Food and Drug Administration applications for approval of new pharmaceuticals, including Genentech's biologically based products, typically span thousands of pages. Although much of that bulk represents new work by Genentech scientists and technical writers, the submissions incorporate copies of hundreds of pages of supporting documents scanned in from research and medical books and journals.

Although happy with the text-printing speed of its stable of networked QMS printers, including the 32-page-per-minute model 3225, Genentech realized only 3 ppm to 4 ppm when printing the scanned bit-mapped images. According to Todd Trundle, supervisor of the technical publishing group, the company was considering a move to 90-plus-ppm models from Eastman Kodak Co. and Xerox Corp. that cost about $100,000. But those plans were shelved after performance testing.

"We brought them a tape with our output files, and it turned out that [including processing time] we were back to about four pages a minute," Trundle said.

In the end, a Genentech technician juggling settings at the computer was able to increase throughput to about 8 ppm to 10 ppm on the existing QMS printers. Genentech is now testing a QMS model 3825 38-ppm printer, Trundle said. — By Stephen E. Cummings

MACINTOUCH RIC FORD

Installing, updating Mac is not a simple process

Configuring a workable Macintosh system right now is a whole lot more complicated than just clicking on a single Installer button. With all the problems people are having, it is clear that there are several critical steps in the installation and upgrade processes:

- Configure the hardware carefully, considering heightened RAM and SCSI sensitivities of recent Macintosh models, extra disk space and RAM requirements, and incompatibilities between the latest Macintoshes and older expansion hardware.
- Install and configure the latest compatible drivers for networks, hard disks, modems, printers, CD-ROM drives, input devices, etc.
- Install System 7.5, followed by System 7.5 Update 1.0, disabling extensions during the process and resetting parameter RAM afterward. (Network installations may involve extra issues.)
- Install Apple software updates, such as Apple Menu Options 1.0.2, LaserWriter 8.2.2, Network Software Install 1.5.1 and QuickDraw GX 1.1.2.
- Identify and disable problematic Apple components, such as General Controls and Macintosh Easy Open.
- Install and update critical third-party extensions, such as Connectix Corp.'s RAM Doubler and Adobe Type Manager.
- Isolate remaining conflicts, if any, with such things as virtual memory, accelerators, the new math library, the new file-sharing code, SCSI Manager 4.3.1, Microsoft system extensions and other third-party software.

RAM Doubler 1.5.2, Silverlining 5.6.1 are just two of the latest updates.

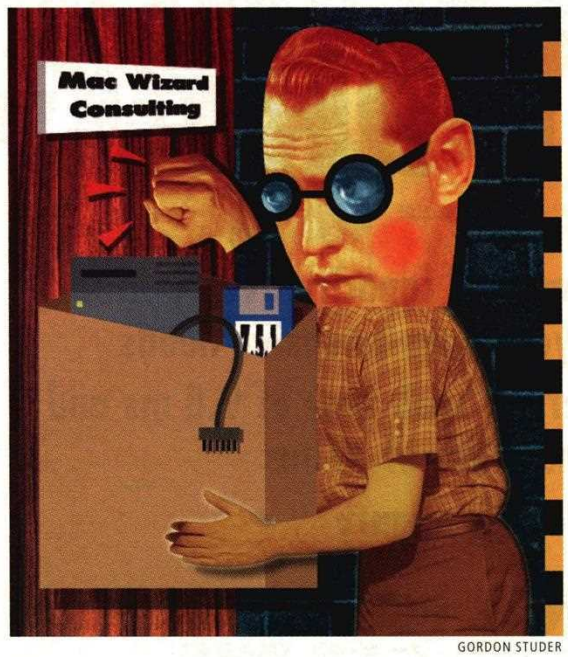
This is all dynamic, too. As I was writing this column, Apple released Network Software Installer 1.5.1, Connectix released RAM Doubler 1.5.2 (see MacWEEK, May 22, Page 78), and La Cie Ltd. released Silverlining 5.6.1 to fix several problems with Version 5.6 of the company's disk formatter.

The configuration permutations and complexity could double during the rest of the year, when Apple rolls out a new generation of Macs; Mac clones hit the street in quantity; and we begin installing new Mac OS components, such as Open Transport.

Mac consultants must be smiling at the business prospects (at least those not struggling to solve technical problems).

Tech notes

Some additional compatibility issues with System 7.5.1 can be added to the issues noted in previous columns. Apple Personal Diagnostics 1.1 is incompatible with System 7.5 Update on Power Macs, according to the company. The utility reports logicboard problems that do not exist. With proof of purchase, Apple will provide an update to the current Version 1.1.1 free for Power Mac owners. Phone (800) 769-2775, Ext. 5941.



GORDON STUDER

John Pope pointed out incompatibilities between Intercon Systems Corp.'s NFS/Share and System 7.5.1 file sharing. Intercon is working on an update. As a workaround for this and other incompatibilities with System 7.5.1's File Sharing Extension 7.6.1, just replace the extension with the System 7.5 version of the file.

Andrew Taggi reports that anti-virus utility GateKeeper 1.3 is incompatible with System 7.5.1's General Controls control panel. Removing or relocating the control panel solves the problem.

Two of Apple's Macintosh Technical Notes offer an enlightening view into the details of System 7.5 and its 7.5.1 update, going well beyond the documentation provided in read-me files. Mac administrators, consultants and advanced users might be well-served by downloading files and reading about bugs, fixes and features in "OV 21 — System 7.5" and "OS 07 — System 7.5 Update 1.0." They are available in the developer areas of Apple's various on-line information services.

Shutdown and restart

Lawrence D'Oliveiro wrote in about a patch he uses to eliminate System 7.5.1's power-key shutdown feature (see MacWEEK, May 15, Page 38 and April 17, Page 33). E-mail ldo@waikato.ac.nz or visit World-Wide Web site http://www2.waikato.ac.nz/ldo/macpatches.html for details.

NoShutButt, a freeware program from Jonathan Jacobs (jxj24@po.cwru.edu), is another alternative; it patches a copy of the System 7.5 Update enabler file for you.

Speaking of shutdowns, if you have feedback about the column this week, please note that I expect to be "off-line" and unable to answer messages until sometime next week. With luck, the mail servers should successfully queue all messages, but it may take some time to catch up with the backlog. □

Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.

SOLUTIONS

From previous page

a Typhoon printer with up to 64 distinct configurations, covering options such as paper size and orientation, resolution and emulated language. Users on the network select and print to any of these "virtual printers" by name, ensuring each job prints correctly without laborious reconfiguration.

Data Products' Typhoon 30 printers excel in high-volume print applications, according to Forrest Ratliff, general manager of ITS Inc., a Westmont, Ill., networking consulting firm.

"My clients want their print on demand; they want it now," Ratliff said. "They have to print out multiple copies of a 2,000-page report, and they need to send it out by courier and get it where it has to go as soon as possible."

In Ratliff's experience, the Typhoon has performed well in complex network installations. "The Typhoon thrives in just about any type of network environment you have, whether you have 100 Macs or 100 IBMs or any mix you can think of. The whole process of setting it up on a Novell network takes only two hours, and just about 20 minutes on any other type of network."

Ratliff pointed to reliability, ease of maintenance and features designed to keep the printer on-line as other advantages of the Typhoon 30. "These printers are relatively maintenance-free, and the staff can do most of the work," he said. "I've seen them go for a year without the service guy coming back out."

Toner can be added while the Typhoon continues printing, eliminating a common cause of service interruptions, Ratliff said. In addition, the printer's design minimizes downtime because of paper jams.

"One of the coolest points [about the Typhoon] is the way it handles paper jams," Ratliff said. "There's a little LED on the control panel that shows you where the jam is. When you open the right door, the printer spits the paper out right into your hands."

There are a handful of other vendors that also compete in the midrange printer market. Xerox Corp. markets the 4700 II Color Document Printer primarily as a color laser printer, but the $45,150 unit is rated at 30 ppm for black-and-white prints. Xerox also makes three black-and-white printers covering the 30-ppm to 50-ppm range.

Perhaps the smallest and least expensive machine in the category is the Deltris PagePlex 32 from camera maker Olympus Image Systems Inc. The $10,995 unit measures about 2 feet square and is only a little larger than many personal laser printers. The PagePlex 32 relies on a unique non-laser printing technology in which an electrostatic charge is imparted to the paper rather than etched on the drum.

When needs for high print speed and volume justify their costs, midrange printers prove to be worthwhile investments. □

PRODUCT INFO

DATA PRODUCTS CORP.
Typhoon 30: $18,195 (simplex parallel serial), $20,995 (simplex plus), $27,495 (duplex);
Typhoon 60: $91,000 (duplex parallel serial), $92,570 (Ethernet)
Woodland Hills, Calif.
(818) 887-8000
or (800) 980-0374

EASTMAN KODAK CO.
1580 Copier Printer: Prices range from $70,500 to $80,000;
ImageSource 70 Copier: $73,500
Rochester, N.Y.
(716) 724-4000 or (800) 255-3434

HEWLETT-PACKARD CO.
HP 5000 C40D: $30,950
Palo Alto, Calif.
(800) 752-0900

IBM PRINTING SYSTEMS CO.
3130 02D: $20,995
Boulder, Colo.
(800) 736-6268

OLYMPUS IMAGE SYSTEMS INC.
Deltis PagePlex 32: $10,995 (simplex), $12,995 (duplex)
Melville, N.Y.
(516) 844-5000 or (800) 347-4027

QMS INC.
3225 Departmental Print System: $16,499
3825 Departmental Print System: $21,999
4525 Departmental Print System: $71,990
Mobile, Ala.
(334) 633-4300 or (800) 633-2696

XEROX CORP.
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APS Q 540[3] Quantum 540 Fireball mechanism	516MB	199.95	299.95
New Lower Pricing! APS Q 730[2] Quantum 730 Lightning mechanism	699MB	249.95	349.95
APS Q 840[3] Quantum 840 Trailblazer mechanism	811MB	299.95	399.95
APS Q 1080[3] Quantum 1080 Fireball mechanism	1042MB	349.95	449.95
MacUser/ZD LABS ★★★½ APS ST 1.0[5] Seagate ST 31230N Hawk mechanism	1010MB	549.95	649.95
APS Q 1.0[5] Quantum Atlas XP31070 mechanism	1025MB	699.95	799.95
MacUser/ZD LABS ★★★½ APS MS 2.0[5] Micropolis 4221 mechanism	1955MB	999.95	1099.95
APS ST 2.0[5] Seagate ST 32550N Barracuda	2047MB	999.95	1099.95
APS Q 2.0[5] Quantum Atlas XP32150 mechanism	2050MB	999.95	1099.95
APS MS 2.0AV[5] Micropolis 4221AV mechanism	1955MB	1099.95	1199.95

4064-8669MB

Model	Capacity	Internal	SR2000
APS MS 4.0[5] Micropolis 3243 mechanism	4064MB	$1399.95	$1499.95
APS MS 4.0AV[5] Micropolis 3243AV mechanism	4064MB	1499.95	1599.95
MacUser/ZD LABS ★★★½ APS ST 4.0[5] Seagate ST 15150N mechanism	4094MB	1499.95	1599.95
APS Q 4.0[5] Quantum Atlas XP34300 mechanism	4101MB	1499.95	1599.95
APS MS 9.0[5] Micropolis 1991 mechanism	8669MB	2299.95	*2499.95
APS MS 9.0AV[5] Micropolis 1991AV mechanism	8669MB	2399.95	*2599.95
MacUser/ZD LABS ★★★★ APS ST 9.0[5] Seagate ST410800N mechanism	8669MB	2699.95	*2899.95

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Model	Capacity	Internal	**AC Only
APS Q 341[1]	326MB	$299.95	N/A
NEW LOWER PRICES APS Q 514[1]	491MB	379.95	N/A
APS T 504[1]	504MB	399.95	NEW FROM APS $499.95*
APS T 800[1]	773MB	599.95	NEW FROM APS 699.95*

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ARRAID M1/7200[5]	1GB	Mirrored (1)	1599.95
ARRAID S2/7200[5]	2GB	Striped (0)	1599.95
ARRAID M2/7200[5]	2GB	Mirrored (1)	2499.95
ARRAID S4/7200[5]	4GB	Striped (0)	2499.95
ARRAID S8/7200[5]	8GB	Striped (0)	3299.95

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APS HyperDAT²	8GB†	949.95	999.95
APS DLT20²	20GB†	—	3999.95
APS DLT40²	40GB†	—	4999.95

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90-Meter	9.95	8.95	7.95
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SQ-2000 (200MB)	84.95	83.95	81.95
SQ-310 (105MB)	59.95	58.95	56.95
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NEC 3Xp — $398
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MaxOptics	1.3 GB	Tahitti III	18ms	1Year	2395
Fujitsu	230 MB	M2512	30ms	1Year	575

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LPS Series	170 MB	14 ms	3600	128K	2 Year	$135	$195
Maverick	540 MB	14 ms	3600	128K	2 Year	225	285
LPS Series	340 MB	11 ms	4500	128K	2 Year	185	245
DSP3053	535 MB	9 ms	5400	512K	2 Year	225	285
Fireball NEW	540 MB	11 ms	4500	128K	2 Year	245	305
Fireball NEW	1080 MB	11 ms	4500	128K	2 Year	495	555
Empire	2100 MB	9.5 ms	5400	512K	5 Year	945	1005
Grand Prix	4200 MB	8.6 ms	7200	512K	5 Year	1155	1215
Atlas Series	1.0 GB	9ms	7200	1024K	5 Year	Call	Call
Atlas Series	2.0 GB	9ms	7200	1024K	5 Year	925	985
Atlas Series	4.0 GB	9ms	7200	2048K	5 Year	1585	1675

	Capacity	Size	Seek	Cache	Warranty	Int.	Ext.
Daytona	256 MB	Powerbook 2..5"	17 ms	128K	1 Year	225	295
Daytona	341 MB	Powerbook 2..5"	17 ms	128K	1 Year	315	395
Daytona	514 MB	Powerbook 2..5"	17 ms	128K	1 Year	385	465

New Products MICROPOLIS MICROPOLIS New Pricing!!

	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
M4221	2.1 GB	8.5 ms	7200	512K	5 Year	980	1040
M4221Wide	2.1 GB	8.5 ms	7200	512K	5 Year	1080	1140
M1936	3.6 GB	11 ms	5400	512K	5 Year	1195	1295
M3243	4.3 GB	8.5 ms	7200	512K	5 Year	1395	1455
M3243Wide	4.3 GB	8.5 ms	7200	512K	5 Year	1475	1535
M1991	9.0 GB	12 ms	5400	512K	5 Year	2195	2295
M1991Wide	9.0 GB	12 ms	5400	512K	5 Year	2295	2395

Direct to Disk Recording AV Drives- BEST for Music and Video Storage

M4221AV	2.1 GB	8.5 ms	7200	512K	5 Year	1035	1095
M1936AV	3.6 GB	11 ms	5400	512K	5 Year	1245	1345
M3243AV	4.3 GB	8.5 ms	7200	512K	5 Year	1495	1455
M1991AV	9.0 GB	12 ms	5400	512K	5 Year	2325	2425
M4221WideAV	2.1 GB	8.5 ms	7200	512K	5 Year	1135	1195
M3243WideAV	4.3 GB	8.5 ms	7200	512K	5 Year	1595	1655
M1991WideAV	9.0 GB	12 ms	5400	512K	5 Year	2495	2595

NEW MICRODISK LT *3.5" Stackable Disk Subsystems, Super Capacity External Storage*

M2100	2.1 GB	8.9 ms	7200	512K	5 Year	Call for the most
M4200	4.2 GB	8.9 ms	7200	512K	5 Year	competitive pricing

SPRING SPECIALS

Quantum 170MB ..... Int. $135 Ext. $195
3600RPM, 14ms seek, 128K cache, 2 year warranty

Quantum 340MB ..... Int. $155 Ext. $215
4500RPM, 12ms seek, 128K cache, 2 year warranty

Quantum535MB ..... Int. $225 Ext. $285
DSP3053, 5400RPM, 9ms seek, 512K cache, 2 year warranty

IBM 728MB ..... Int. $260 Ext. $320
OBI728, 4500RPM, 11ms seek, 128K cache, 2 year warranty

Quantum Fireball 1.0GB ..... Int. $495 Ext. $555
QFB1080, 4500RPM, 11ms seek, 2 year warranty

Quantum Grand Prix 2.0GB ..... Int. $890 Ext. $950
Q2100, 5400RPM, 9ms seek, 5 year warranty

Seagate Barracuda 4.0GB ..... Int. $1495 Ext. $1555
ST15150N, 7200RPM, 8ms seek, 5 year warranty

Seagate Seagate Seagate Seagate

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
Hawk 2LP	1.2 GB ST31230N	9ms	5400	512K	5 Year	535	595
Hawk 4	4.2 GB ST15230N	9ms	5400	512K	5 Year	1335	1495
Barracuda 2LP	2.5 GB ST32550N	8ms	7200	1024K	5 Year	1050	1110
Barracuda 4	4.2 GB ST15150N	8ms	7200	1024K	5 Year	1495	1555
Barracuda 2Wide	2.5 GB ST32550Wide	8ms	7200	1024K	5 Year	1125	1195
Barracuda 4Wide	4.2 GB ST15150Wide	8ms	7200	1024K	5 Year	1590	1650
Elite 9	9.0 GB ST410800N	11ms	5400	512K	5 Year	2795	2895

FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
M2684	530 MB	9ms	4500	256K	5 Year	220	280
M1606SA	1.2 GB	9ms	4500	512K	5 Year	525	585

HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD

	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
C3724SE	1.2 GB	9.5 ms	5400	512K	5 Year	$585	$645
C2490SE	2.4 GB	8.5 ms	6300	512K	5 Year	1125	1185

All in Stock! SyQuest TECHNOLOGY

Capacity	Seek	RPM	Int.	Ext.
88 MB SQ5110C	20 ms	3200	$305	$365
200 MB SQ5200	18 ms	3200	420	480
270 MB SQ3270	13.5 ms	3200	420	480

2 Year Warranty on all SyQuest Drives.
SyQuest drives come complete with 1 cartridge(Formatted or Unformatted) and the latest SCSI 4.3 compatible software

SyQuest TECHNOLOGY Media

Capacity	Model	Warranty	Price
44 MB	SQ400	5 year	$41
88 MB	SQ800	5 year	46
105 MB	SQ310	5 year	50
200 MB	SQ2000	5 year	74
270 MB	SQ327	5 year	63

SCSI-2 Accelerators

Atto

Silicon Express Fast SCSI-2 — 525
SCSI 1 & 2 support,transfer rates up to 10.0 MB/sec,supports multiple block sizes,takes advantage of parallel processing capability by transferring data directly between the Mac RAM and the SCSI bus! Ideal for graphic design,multimedia applications,software design, and more!

Silicon Express 4 Card — 895
Fast/Wide (16Bit) SCSI-2 accelerator card for Apple's Nubus based computers. Supports Fast/Wide SCSI 2 (16 Bit) transfer rates up to 20MB/sec., and fast SCSI-2 (8 Bit) transfer rates up to 10MB/sec. Full 16 Bit WIDE support for the latest drives and disk arrays . Fully compatible with all existing SCSI-1 drives . Formatting software is included. 5 Year Warranty.

Remus RAID Software — Call

Tape Backup Drives

HEWLETT PACKARD

Capacity	Model	Media	Int.	Ext.
2.0 GB	35470	4mm	$935	$985
3-5 GB	35480	4mm	1105	1150
4-10 GB	1533A	4mm	1235	1295
20-50 GB	1553A Auto Tape Loader		3495	3595

Exabyte

Capacity	Model	Media	Int.	Ext.
2-5 GB	8205	8mm	$1395	$1485
7-14 GB	8505XL	8mm	2175	2240

Dat drives include 1 piece of media and Retrospect Software

DeskTape™ Allows you to mount your DAT on the desktop. Backing up your data is as easy as drag and drop!

ProDirect always suggests that our customers backup their hard drives. In the event of hard drive failure, be assured and back up your data with quality tape backup drives from Hewlett Packard and Exabyte.

Memory Products

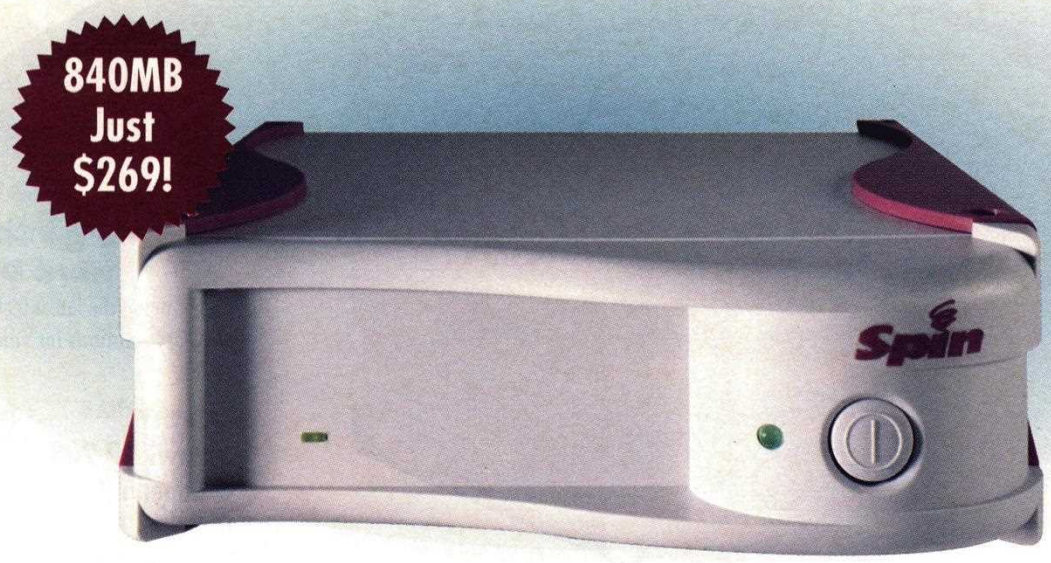
Memory	Centris,LCIII,Quadra
2x8x80	4MB 60/70ns
4x8x80 60/70ns	8MB 60/70ns
4x8x80 FX	16MB 70ns
16x8x80 Low Profile	32MB 60ns
16x8x80 FX	VRAM 256K/512K

Powerbook Memory
520,520C,540,540C
4MB,8MB,16MB,32MB
140,170,160,165C,180,180C,Duos
4MB,6MB,8MB,10MB, 12MB,14MB,20MB

Lifetime Warranty on all Memory Products!!

Always call for the most competitive pricing on memory.

The Latest in Hard Drive Technology



Hard Drives

Spin introduces the new, affordable Quantum Fireball and Trailblazers! Perfect for home/office users.

CAPACITY	INTERNAL	TORNADO
Quantum Trailblazer 420MB	$189	$289
Quantum Fireball 540MB	$219	$319
Quantum Trailblazer 840MB	$269	$369
Quantum Fireball 1.0GB	$379	$479

Great Prices on SyQuest Drives

SyQuest Drives

Transport and save your DTP, graphics, digital photography, and prepress files with SyQuest drives. All drives delivered with one cartridge.

SyQuest 44MB		Cartridge	$43
SyQuest 44/88MB	$339	Cartridge	$48
SyQuest 200MB	$479	Cartridge	$75
SyQuest 105MB	$249	Cartridge	$56
SyQuest 270MB	$479	Cartridge	$65

✈ $5.00 OVERNIGHT SHIPPING ✈
FOR ANY ORDER UP TO 5 POUNDS!

Spin will ship any order to you overnight for just $1.00 per pound, with a $5.00 minimum. If your order is over 21 pounds your price per pound goes down. Offer valid within the contiguous 48 states.

The best products. Reasonable overnight shipping. Overall value. So go ahead, take a Spin and enjoy.

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All prices subject to changes without notice, call for latest pricing information.

Spin
PERIPHERALS

734 Forest Street, Marlborough, MA 01752
spin@world.std.com MWK6595

Toll-Free Tech Support

30-Day Money-Back Guarantee

FAX: 508-787-1201

TEL: 508-787-1200

Spin hours: 8:30am to 8pm EST, Monday-Friday

800-466-1200

Limited Time Offer!

2 Gigabytes for just $849!

Large Capacity Hard Drives

Introducing the latest technology in large capacity solutions for your expanding storage needs.

CAPACITY	INTERNAL	TORNADO
S Hawk LP 2GB	$849	$949
Q Capella 2GB	$849	$949
Q Grand Prix 2GB	$899	$999
Q Atlas 2GB	$999	$1099
Q Atlas 4GB	$1499	$1599

$379! Including Cartridge!

Bernoulli Drives

Spin's 230MB removable cartridge drive is a premium storage solution for DTP and graphics users. Five year warranty and one cartridge included.

Bernoulli 230MB	$379
Single Cartridge	$89
3-Pack	$199

Retrospect backup software included.

DAT Drives

Spin DAT drives are the flexible backup solution for all types of users. Store up to 8GB of data on one inexpensive tape. One cartridge included.

Spin 3100 (DDS)	$799
Spin 3200 (DDS-DC)	$899
Spin 3400 (DDS-2)	$999

QuickTape

Back up your small business and home systems in minutes with QuickTape. Includes a 1GB QIC-WIDE cartridge and Cheyenne ARCserve software.

QuickTape	$499
Cartridge	$19

Toll-Free Tech Support

30-Day Money-Back Guarantee

FAX: 508-787-1201

TEL: 508-787-1200

Spin hours: 8:30am to 8pm EST, Monday-Friday

230 Magneto-Optical

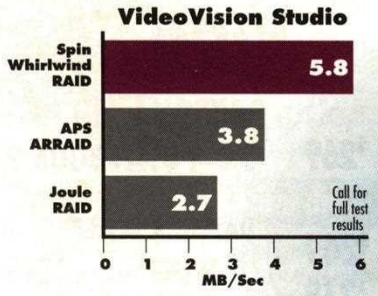
Backup or archive your valuable Photoshop™, QuarkXPress™, Excel™, Word™, and database files for years with Spin Magneto-Optical drives.

Olympus 230MB	$599
Cartridge	$39
Maxoptix T4 1.3GB	$1999
Cartridge	$85

Two Cartridges Included!

✈ $5.00 OVERNIGHT SHIPPING FOR ANY ORDER UP TO 5 LBS! ✈

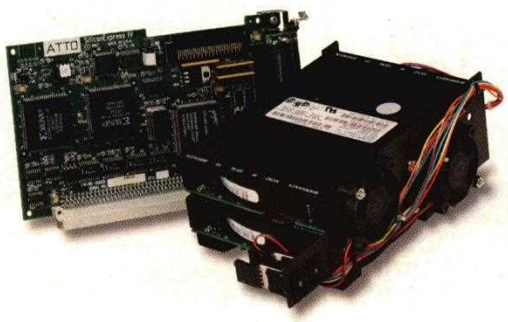
Spin will ship any order to you overnight for just $1.00 per pound, with a $5.00 minimum. If your order is over 21 pounds your price per pound goes down. Offer valid within the contiguous 48 states.



Whirlwind RAID

Video and server applications need the power of our Fast/Wide Whirlwind RAID. ATTO Silicon Express IV and Remus RAID software included.

CAPACITY	RAID 0,1	RAID 0,1,4,5
2GB	$2999	$3199
4GB	$3799	$3999
8GB	$5399	$5599



Internal RAID

Fast/Wide RAID that fits inside your 800, 840AV, PowerMac 8100, or Workgroup Server 80 and 8150. ATTO SE IV and Remus RAID software included.

CAPACITY	RAID 0,1	RAID 0,1,4,5
2GB	$2999	$3199
4GB	$3799	$3999

PowerBook Drives

Spin 2.5" drives are fast, easy to install, and offer the capacity you need when you are on the road.

Quantum 170MB	$179
Quantum 256MB	$249
Quantum 341MB	$349
Quantum 514MB	$449

Including the Anubis Formatting utility by CharisMac Engineering, Inc.

Whirlwind

Whirlwind Fast/Wide drives are for graphics and other users who need superior throughput but not the horsepower of our Whirlwind RAID system.

1GB Seagate Barracuda	$999
2GB Seagate Barracuda	$1399
4GB Quantum Atlas	$2199
ATTO SE IV with drive purchase	$895

Manufactured by NOMAÏ

OPTICAL • BERNOULLI • DAT • SYQUEST FOR MEDIA 800-466-1200 OVERNIGHT

Spin Cartridges

DTP and graphics designers– save your work and your money on Spin's SyQuest™ compatible cartridges. Constructed of the most durable material, each cartridge is fully backwards compatible. All cartridges ship preformatted and offer the security of an unconditional 6-year warranty.

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The best products. Reasonable overnight shipping. Overall value. So go ahead, take a Spin and enjoy.

Spin PERIPHERALS

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Quantum

Incredibly Low Price

$1149
GRAND PRIX 4.3GB INTERNAL 7200 RPM

NOW SHIPPING WITH ACTIVE TERMINATION

30 DAY Money Back Guarantee

$499
FIREBALL 1080

30 DAY Money Back Guarantee

ClubMac NEW PRODUCT

GRAND PRIX 3.5" HIGH CAPACITY DRIVES

Capacity	Access Time	Part No.	Internal	Part No.	External
4300MB	8.6ms	C109 1159	$1149	C109 1108	$1209

3.5" LOW PROFILE DRIVES

Capacity	Part No.	Internal	Part No.	External
EMPIRE SERIES 9.5ms access time				
2100MB	C109 1158	$919	C109 1107	$979
MAVERICK SERIES 14ms access time				
540MB	C109 1151	$209	C109 1101	$269
LIGHTNING SERIES 11ms access time				
365MB	C109 1155	$189	C109 1104	$249
540MB	C109 1150	$219	C109 1100	$279
730MB	C109 1154	$259	C109 1102	$319
FIREBALL SERIES 9.5ms access time				
1080MB	C109 1202	$499	C109 1105	$559

All Quantum Drives carry a 30-Day Money Back Guarantee. Quantum Maverick, Lightning, Empire, and Atlas series include a TWO Year Warranty. Quantum Daytona series include a ONE Year Warranty.

30 DAY Money Back Guarantee

$399
DAYTONA 514 INTERNAL

2.5" POWERBOOK DRIVES

Capacity	Part No.	Internal	Part No.	External
DAYTONA SERIES 17ms access time				
341MB	Q030 1041	$299	C109 1119	$419
514MB	Q030 1002	$399	C109 1109	$519

$59.95* C089 1009 300D

LIMITED TIME OFFER

* Get ClarisWorks 3.0 with any external drive for an additional $59.95

ClubMac 5.25" 200MB Removable

NEW! Read, Write and FORMAT Compatible with 200MB, 88MB, and 44MB Cartridges.

FEATURING SyQuest® REMOVABLE TECHNOLOGY

$468
C109 1003

INCLUDES FREE CARTRIDGE

NOW SHIPPING WITH ACTIVE TERMINATION

MacUser ★★★★ February 1995

30 DAY Money Back Guarantee

C109 1003	5.25" ClubMac 200MB *includes FREE Formatted 200MB Cartridge*	External	$468
C109 1002	5.25" ClubMac 88MB *includes FREE Formatted 88MB Cartridge*	External	$349

All SyQuest drives include SCSI Director formatting software, ONE FREE Formatted Cartridge, necessary cables for "plug-and-play" and documentation. All SyQuest drives include a 30-Day Money Back Guarantee and TWO Year Warranty. All SyQuest cartridges include a FIVE Year Warranty (warranty after the first year is handled by SyQuest).

ClubMac 3.5" 270MB Removable

- Fast 13.5ms average seek time
- 3,600 RPM rotational speed
- Data transfer rate up to 4MB/sec (sync)
- SCSI-2 interface
- Backward compatible with 105MB cartridges
- 100,000 hours MTBF

NOW SHIPPING WITH ACTIVE TERMINATION

$468
C109 1004

30 DAY Money Back Guarantee

FREE CARTRIDGE

C109 1004	3.5" ClubMac 270MB *includes FREE Formatted 270MB Cartridge*	External	$468

ClubMac 3.5" 105MB Removable

- Fast 14.5ms average seek time
- 3,600 RPM rotational speed
- SCSI-2 interface
- Data transfer rate up to 4MB/sec (sync)
- 100,000 hours MTBF

NOW SHIPPING WITH ACTIVE TERMINATION

$259
C109 1005

30 DAY Money Back Guarantee

FREE CARTRIDGE

C109 1005	3.5" ClubMac 105MB *includes FREE Formatted 105MB Cartridge*	External	$259

SyQuest 5 YEAR Warranty* ON CARTRIDGES

GENUINE SYQUEST CARTRIDGES

Part Number	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	$43ea	$42ea	$41ea
S198 1011	88MB	$48ea	$47ea	$46ea
S198 1012	200MB	$76ea	$74ea	$72ea
S198 1013	105MB	$55ea	$53ea	$51ea
S198 1014	270MB	$62ea	$61ea	$60ea

* Warranty after first year, handled by SyQuest.

NEC

NEC MultiSpin 6Xe $559
NEW PRODUCT

N024 1062

6X Speed

- Blazing 900 KB/sec
- 150ms access time
- Removable disc cartridge included
- Two Year Limited Warranty

N024 1062 **NEC MultiSpin 6Xe** $559
N024 1011 **NEC MultiSpin 3Xp** $379
N024 1008 **NEC MultiSpin 2V Mac** $199

NEC MultiSpin 2V

$199
N024 1008

2X Speed

- Power Tray
- 320ms access time
- 300KB/sec transfer rate
- Two Year Limited Warranty

Seagate

Unformatted Capacity	Model	Description	Part No.	Internal	Part No.	External
3.5" Half Height & Low Profile (LP)						
2.4GB	32430N	Hawk 2 LP	C109 2211	$939	C109 2112	$999
4.3GB	15230N	Hawk 4	C109 2212	$1339	C109 2113	$1399
2.5GB	32550N	Barracuda 2 LP	C109 2203	$1089	C109 2109	$1149
4.3GB	15150N	Barracuda 4	C109 2207	$1539	C109 2106	$1599
5.25" Full Height						
9.1GB	410800N	Elite-9			C109 2110	$2799

4.3GB BARRACUDA 4 $1599
8.5ms average seek time
7,200 RPM rotational speed

30 DAY Money Back Guarantee

EXTERNAL

Seagate 5 Year Warranty

NOW SHIPPING WITH ACTIVE TERMINATION

ClubMac 4X CD-ROM

- 600KB/sec data transfer rate
- 190ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

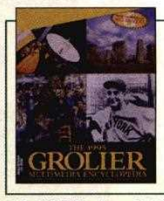
$249
C109 9546

ClubMac 2X CD-ROM

- 300KB/sec data transfer rate
- 320ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

$159
C109 9543

PhotoCD™ CD AutoCache 30 DAY Money Back Guarantee



NEW PRODUCT

- Grolier 1995 Multimedia Encyclopedia
- U.S. Atlas & World Atlas
- San Diego Zoo Animals
- Wyatt Earp
- QuickShot speakers & Koss Headphones (5 Titles/4 CDs)

CLUBMAC CD-ROM BUNDLE $100*
* with any CD-ROM Drive purchase C109 1015

ClubMac Tape Backup Drives

The ClubMac 2.0GB DAT drive features 20sec average data access time, up to 266KB/sec data transfer rate, SCSI-1/SCSI-2 interface and 60,000 hrs MTBF.

NOW SHIPPING WITH ACTIVE TERMINATION

$729

30 DAY Money Back Guarantee

BUNDLED WITH Retrospect v2.1 Backup Software

C109 5011	ClubMac 2.0GB DAT	$729
C109 5010	ClubMac 4-8GB DAT/DDS-2	$949

ClubMac DAT drives includes a 30-Day Money Back Guarantee, TWO Year Warranty, RetroSpect v2.1 Backup Software, ONE 90m DAT tape (ClubMac 4-8GB DAT drive includes ONE 120m DAT tape), 25/50 pin SCSI cable and power cord for external drives, user's guide, and Switchable Active Termination.

ClubMac Optical Drives

ClubMac 5.25" OLYMPUS 1.3GB

- 29ms ave. seek time
- 3,500 RPM rotational speed

30 DAY Money Back Guarantee

$1499
C109 5022

NOW SHIPPING WITH ACTIVE TERMINATION

CLUBMAC 3.5" OLYMPUS 230MB

- 28ms ave. seek time
- 4,200 RPM rotational speed

MacUser ★★★★ February 1995

$579
C109 9352

ClubMac drives are preformatted and thoroughly tested. ClubMac Optical drives include a 30 Day Money Back Guarantee, ONE Year Warranty, a FREE formatted optical disk, SCSI Director Formatting Software, pre-loaded Apple system software, 25/50 pin SCSI cable and power cord for external drives, user's guide, and Switchable Active Termination.

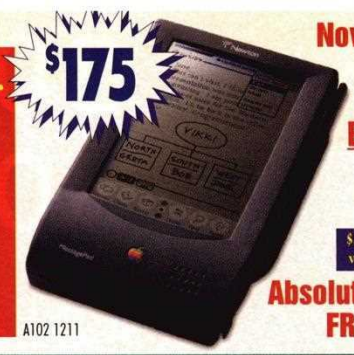
New ClubMac Catalog is now Available! Call 1-800-258-2622 and ask your salesperson for your FREE ClubMac Catalog subscription.

Authorized Catalog Reseller

Apple Newton MessagePad 100

Newton MessagePad 100

- Manage information, stay in touch with people, and exchange data with your computer
- Send or receive electronic mail, send a fax or "beam" to another Newton MessagePad
- Newton® Recognition Architecture recognizes both printed and cursive handwriting
- Built-in applications that include a notepad, to-do list, datebook, and name file
- Features a fast 20 MHz Processor, improved 4mb ROM and 640K RAM



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$27.95 value!

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Monitors, Graphic Cards, Multimedia

NEC

17" MultiSync XV17
Large Screen performance at an affordable price

- Perfect entry level business, small office/home office, home education/entertainment
- 17" diagonal flat square technology
- 15.6" Viewable image size
- Mac Res: 1024 x 768 NI
- PC Res: 1280 x 1024 NI
- Fine 0.28mm dot pitch
- FullScan capability
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	14" MultiSync XV14 (N026 1016)	$319
	15" MultiSync XV15 (N026 1015)	$435
	15" MultiSync XE15 (N026 1006) / **XP15** (N026 1005)	$549 / 599
	17" MultiSync XV17 (N026 1022) / **XP17** (N026 1009)	$759 / 1229
	21" MultiSync XE21 (N026 1010) / **XP21** (N026 1011)	$1989 / 2439

IntelliColor Display/20e

The Radius IntelliColor Display/20e is part of the next generation in professional two-page color displays. It delivers unrivaled command of your desktop, from on-the-fly resolution switching to state-of-the-art color temperature control. Combined with Radius' IntelliColor software, it allows you to emulate 3 lighting conditions and user-adjustable color temperature, so you get more accurate color representation.

$1979

MONITORS

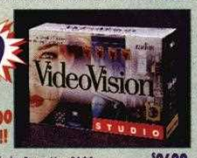
R016 1013	**PressView 21T Display System** (PV2102) 21" Trinitron, 640 x 480 to 1600 x 1200	$3129
R016 1016	**SuperMatch 21•T XL Trinitron** (STD2102) 21" Trinitron, 1600 x 1200	$2139
R016 1009	**IntelliColor Display/20e** (0461) 20" Trinitron, 640 x 480 to 1600 x 1200	$1979
R016 1007	**PrecisionColor Display/17** (0460) 17" Trinitron, 640 x 480 to 1600 x 1200	$989
R016 1030	**PrecisionView 17** (RD1705) 17" Trinitron, 1024 x 769	$829

VideoVision Studio 2.0

With JPEG hardware compression and decompression for full-screen, full-motion recording and playback from a hard disk, VideoVision Studio combines the power and flexibility of the Macintosh with the ease and transportability of video tape.

$3699

PowerMac 8100 Compatible !!



MULTIMEDIA SOLUTIONS

R013 1018	**VideoVision Studio 2.0** (0500) NEW and IMPROVED, now compatible with the PowerMac 8100	$3699
R013 1020	**VideoVision Studio 2.0 Upgrade** (0505) JPEG daughtercard	$1759
R013 1026	**SpigotPower AV** (DV1630) captures full-screen 24-bit color video up to 30 frames/60 fields per sec	$759
R013 1065	**SpigotPro AV** (0514) captures full-screen 24-bit color video up to 30 frames/60 fields per sec	$1249

radius

Thunder Series GRAPHIC ACCELERATORS

Super Resolution at Earth-Shaking Speed.

Thunder Series Cards
Blow the doors off Power Mac

Three Thunder IV GX cards extend the 24-bit resolution of the PowerMac's built-in-video. Accelerated 24-bit color, built-in Photoshop acceleration, CMYK acceleration, hot-key resolution switching, pan and zoom, color composer and 10-bit DAC add up to make these cards the number one choice for image processing, compositing and illustration.

FREE* ColorComposer software

Adobe charged

GRAPHIC CARDS

R013 1059	**Thunder IV GX•1600** (0513) 24-bit support to 1600 x 1200	$2799
R013 1060	**Thunder IV GX•1360** (0446) 24-bit support to 1360 x 1024	$2289
R013 1061	**Thunder IV GX•1152** (0485) 24-bit support 1152 x 870	$1899
R013 1062	**Thunder/24 GT** (0491) 24-bit support to 1152 x 870, PhotoEngine optional	$1329
R013 1010	**PrecisionColor Pro 24XK** (0430) 24-bit color, 1024 x 768, 16" and larger displays	$749
R013 1008	**PrecisionColor Pro 24X** (0429) 24-bit color, 640 x 480 to 1152 x 870, 13" to 21" displays	$1059

*Modify your image display without affecting the image file. For a limited time, FREE ColorComposer software is included with each Thunder Series card. Adjust what you see on your monitor to more closely match the output of your printer.

Printers

NEC

NEC Silentwriter Model 640

- 6ppm Print Speed
- 300 dpi print resolution
- 35 True Type fonts
- 3MB RAM standard
- AppleTalk Interface
- Adobe PostScript Level 2 interpreter
- Limited TWO-Year Overnight Replacement Warranty

(N027 1001)

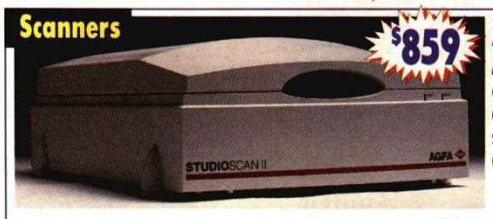
EPSON

Stylus COLOR Inkjet Printer E047 1012

Now you can print in vivid color with clarity never before possible in a personal color printer. At 360 dpi resolution blacks are blacker and at 720/360 dpi the color output is the sharpest available.

- Incredible 720 dpi color printing, optimized with special coated paper
- 360 dpi black print resolution
- Prints up to 16 million colors
- Serial interface
- Includes Mac driver software and a TWO Year Warranty

Scanners



AGFA StudioScan II

Agfa's StudioScan II, with its speed, flexibility, high-resolution capabilities, color accuracy, and OCR and other bundled software, brings productivity and image quality to novice and desktop users. While maintaining simplicity of operation, StudioScan II features productivity and output quality for demanding environments and applications.

AGFA

A055 1005	**AGFA StudioScan II**	$859
A055 1004	**AGFA StudioScan**	$679
A055 1007	**Agfa Transparancy Unit II**	$379
A055 1003	**Agfa Transparancy Unit**	$379

EPSON

Epson ES-1200 Pro Mac Scanning System

HIGH DETAIL 4800 DPI, 30-BIT COLOR SCANNING MADE AFFORDABLE.

$1269

- 600 x 1200 dpi scanning resolution (up to 4800 dpi via interpolation)
- Epson's TruePass scanning technology
- Scans over ONE BILLION colors
- 8.5" x 11.67" scanning area
- Built-in image processing features
- Increased image quality with 30-bit color scanning

E045 1003	**Epson ES-1200C Pro-MAC**	$1269
E045 1004	**Transparency Unit**	$749
E045 1008	**Automatic Document Feeder**	$465

PaperPort. VISIONEER

The fastest way to get paper into your Mac.

If it's on paper, it's PaperPort-able!

The first truly simple, super-small input device that converts your paper documents into electronic ones. With PaperPort's direct links to word processors, OCR software (included!), printers and fax modems, you can file, edit, annotate, print and send your documents directly to others. (V025 1002)

MACWORLD MW★★★★★

Modems

GLOBAL VILLAGE COMMUNICATION

$229

G050 1016

Global Village TelePort Platinum

The Teleport Platinum fax/modem makes it easy to achieve the highest possible performance for both data adn fax communication. You'll save time and money when your use it to send and receive faxes, access your office network from home, transfer files, and connect to on-line services

G050 1016	**Global Village TelePort Platinum**	$229
G050 1006	**Global Village TelePort Gold II**	$139
G050 1017	**Global Village PowerPort Platinum PB 1XX**	$325
G050 1003	**Global Village PowerPort Mercury PB 1XX**	$325

SupraFAXModem

28.8 MC v.34

S140 1006	**Supra Express 14.4 Plus**	$99
S140 1007	**SupraFAXModem 28.8 MC V. 34**	$225
S140 1008	**SupraFAXModem 28.8 PB** V.Fast Class for PowerBooks	$299

Supra Modems include a FIVE Year Warranty.

Graphic Cards

The Inexpensive Alternative for High-End Color Displays

EA REASEARCH

EAsycolor 24

The EAsycolor 24 graphics accelerator offers an unsurpassed combination of performance and price to creative professionals. In addition to 24-bit resolution up to 1600 x 1200, the EAsycolor 24 also offers Adobe Photoshop, CMYK-RGB, and QuickDraw Acceleration. Ideal for PowerMac owners, the EAsycolor 24 features state of the art RISC technology, up to 8MB VRAM, a 30 day money-back guarantee and a lifetime warranty at a very competitive price.

E103 1001	**EAsycolor 24 1152 Graphics Card** (EC1152)	$1299
E103 1002	**EAsycolor 24 1360 Graphics Card** (EC1360)	$1699
E103 1003	**EAsycolor 24 1600 Graphics Card** (EC1600)	$2299

RASTEROPS CORPORATION

PaintBoard Prism GT
bundled with Painter 3.0

Prism delivers top performance – real-world performance – for the way that people really work. Prism provides a balance of price, performance and functionality that are unmatched

- Accelerated 24-bit color at resolutions up to 1152 x 870
- Seven-inch size compatibility with compact and full-size NuBus Macintosh and Power Macintosh computers
- Support for displays up to 21 inches
- High refresh rates for flicker-free images
- Hardware-based 2X, 4X and 8X zoom and pan

R053 1029	**PaintBoard Prism GT bundled with Painter 3.0**	$959
R053 1028	**PaintBoard Prism**	$659

Acceleration

IN STOCK!

$1489*

100 MHz Turbo 601

100MHz

Compatible with Mac IIci, IIsi, IIvx, and Performa 600

The Turbo 601 provides the best of both worlds. The Turbo 601 allows you to run your current software up to twice as fast, and it lets your run powerPC accellerated applications at full PowerPC speed - from 7 to 11 times faster!

DAYSTAR DIGITAL

	DayStar 100 MHz Turbo 601 (D040 1048) Compatible with Mac IIci (D040 1048), IIsi (D040 1050), IIvx/vi/Performa 600 (D040 1052)	$1489*
	DayStar 100 MHz PowerPro 601 (D040 1043) Compatible with Quadra 900/950, 700 and other with Quadra style PDS	$1489*
	DayStar 66 MHz Turbo 601 Compatible with Mac IIci (D040 1039), IIsi (D040 1049), IIvx/vi/Performa 600 (D040 1051)	$989
	DayStar 66 MHz PowerCard 601 (D040 1040)	$635
	DayStar Turbo '040 (D040 1018)	$769

* After $200 Mail-in rebate from DayStar Digital.

Networking

Mac Con LC-10T III

(A120 1026)

Mac Con LC-10T III is a great low cost 10BaseT solution for LCs, Quadra 605s, 630s and many Performa models

$59

SPECIAL BUY! Limited Quantities Available

ASANTÉ

A120 1026	10BaseT, FPU socket (MciLC-10TIII)	$59
A120 1034	NetExtender - AAUI Hub with 4 RJ45 Ports, attached AAUI cable (NETEXT-FN-AAUI)	$75
A120 1032	Micro AsantéPrint, 10BT (AP10T)	$285
A120 1033	Micro AsantéPrint, Thk/Thn/10BT (AP3)	$309
A120 1010	10BaseT FriendlyNet Media Adapter (FN10TA)	$49
A120 1025	Mac II/Perf 600, NuBus, Thk/Thn (MCINB-TN)	$95
A120 1023	Mac II/Perf 600, NuBus, Thk/10BT (MCINB-10T)	$109
A120 1022	Mac LC/Q6xx/Clr Classic, Thn, FPU (MCLC-TN)	$109
A120 1037	Mac LC/Q6xx/Clr Classic, 10BT, FPU (MCLC-10T)	$89

WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. **MONEY BACK GUARANTEE:** All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. **RETURNS:** Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

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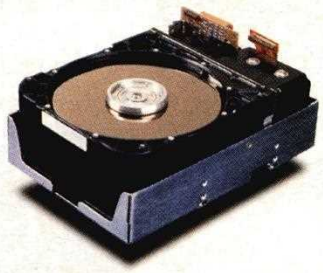
"Direct Connections provided excellent technical support." **MacWorld July'95**
"Direct Connections' array offered the best performance per dollar of the drives tested." **Digital Video Oct. '94**
"Your next option is to locate...highly visible digital video suppliers like Direct Connections." **NEWMEDIA June '95**
""I tried...Direct Connections...configurations without encountering any problems" **Video Pro April '95**
"This array is the one to beat." **Ken Grey** Writer for WIRED, Computer User, MovieMaker, Computer Video, and Digital Video Magazine.
"Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." **MacWorld April '95**

HARD DRIVES

Seagate Elite 9 9gig. $2595.



240MB - 1200MB

BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
QUANTUM	514MB	2.5"	14MS		$ 425	
FUJITSU M2684S	530MB	3.5"	13MS	5400	$ 209	$ 269
NEC	730MB	3.5"	11MS	4090	$ 239	$ 299
CONNER CFP1080S	1.2GIG	3.5" LP	9MS	5400	$ 455	$ 515
Hitachi DK326c-10	1.0GIG	3.5"	9MS	6300	$ 585	$ 645
FUJITSU M1606S	1.2GIG	3.5" LP	10MS	5400	$ 555	$ 615

1.7GIG - 9GIG

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
Seagate ST12450W	1.7GIG	3.5"	8MS	7200	$ 1495	$ 1555
Conner CFP2105S	2.1GIG	3.5" LP	9MS	5400	$ 855	$ 915
Conner CFP2107S	2.1GIG	3.5" LP	8MS	7200	$ 955	$ 1015
Quantum XP32150S	2.2GIG	3.5" LP	8.6MS	7200	$ 935	$ 995
Seagate Barracuda 2	2.5GIG	3.5" LP	8MS	7200	$ 1055	$ 1115
Seagate Barracuda 2W	2.5GIG	3.5" LP	8MS	7200	$ 1139	$ 1199
Seagate Barracuda 4	4.1GIG	3.5"	8MS	7200	$ 1499	$ 1559
Seagate ST15230N	4.3GIG	3.5"	9MS	5400	$ 1155	$ 1215
Conner CFP4207S	4.2GIG	3.5"	9MS	7200	$ 1399	$ 1499
Conner CFP4207wide	4.2GIG	3.5"	9MS	7200	$ 1399	$ 1499
Quantum XP34280S	4.3GIG	3.5"	8.6MS	7200	$ 1395	$ 1465
Seagate Elite 9	9.0GIG	5.25"	11MS	5400	$ 2595	$ 2695

CD RECORDERS

- Multimedia
- Archiving
- Distribution
- In-house publishing
- Back-up
- Image Data handling

- Unprecedented 4X speed
- Multisession
- Selectable Speeds
- Flexible Formats
  - Digital Audio
  - Interactive
  - Read-only
  - Extended Architecture

Yamaha 4 speed recorder

$3395

"We recommend the Yamaha CDR100"
- MacWorld Mar. '95

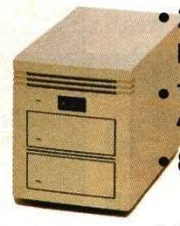
MEDIA

128MB Optical	$ 25	60M Tape	$ 10
230MB Optical	$ 29	90M Tape	$ 12
1.3GIG Optical	$ 85	112M Tape	$ 15
10 Blank CD's	$ 99	120M Tape	$ 20
88MB Squest	$ 48	200MB Syquest	$ 76
105MB Syquest	$ 54	270MB Syquest	$ 61

Our top rated RAID Systems include an Atto accelerator card, Remus RAID software, and all cabling.

RAID SYSTEMS
FROM 1 TO 84 GIG

"Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." MacWorld April '95



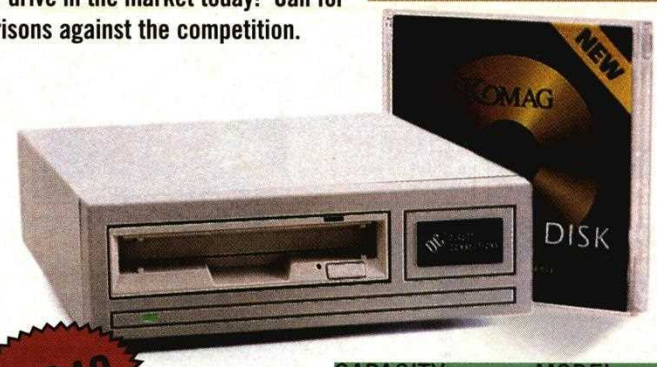
- **2.0 GIG RAID Level 0. Perfect for highspeed requirements.** $ 2199
- **This Array is the one to beat!! 4.0 GIG Barracuda 2 Wide Raid** $ 3599
- **8.0 GIG Fast and Wide Raid** $ 4499

Atto Silicon Express IV $799 accelerator card

VideoVision Studio $ 3649
Full screen and full motion recording and playback with JPEG hardware compression and decompression. radius

OPTICAL DRIVES

The New Sony 1.3GB half-height has 4MB of Cache and 3600rpm making this the fastest Optical drive in the market today! Call for comparisons against the competition.



$1949.

1 YEAR WARRANTY

ALL OPTICAL DRIVES INCLUDE CARTRIDGE, CABLING, AND SOFTWARE.

CAPACITY	MODEL	EXTERNAL
230MB	Fujitsu	$ 575
1.3GB	NEC	$ 1599
1.3GB	Sony 4MB cache	$ 1949
1.3GB	Ricoh Turbo	$ 2175
Sony's latest technology → 26GB	Sony Jukebox	$ 6395

TAPE BACK-UP

2 YEAR WARRANTY

We are the tape-backup Experts

With 2.5mb/sec sustained transfer, the DLT2000 is perfect for digital video or pre-press with large data files.

$3675.

All enclosures include one tape cartridge, cabling, and Retrospect software.

CAPACITY	MODEL	MEDIA	INTERNAL	EXTERNAL
1.3-2GIG	DC DAT	4MM	$ 709	$ 769
1.3-4GIG	DC DOUBLE DAT	4MM	$ 839	$ 899
1.3-8GIG	Conner 4326 DDS-2	4MM	$ 1089	$ 1149
4.0GIG	Sony 5200 DDS-2	4MM	$ 939	$ 999
4.0-8GIG	Sony 5000 DDS-2	4MM	$ 939	$ 999
7.0-14GIG	Exabyte 8505XL	8MM	$ 2135	$ 2195
10-20GIG	QUANTUM DLT (DIGITAL LINEAR TAPE) INCREDIBLE 2.5MB/SEC TRANSFER RATE	1/2	$ 3575	$ 3675
-140GIG	Exabyte-10h Library	8MM		$ 4999

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2) sign and date your form
3) use specific numbers when answering questions requesting quantities. Free subscriptions available in U.S. and Canada only.

Required: Full company name and company address must be written below or application cannot be processed. *Please print.* Military: please specify branch of service and name of base (if applicable).

First Name | Last Name

Title | Business Telephone

Company Name

Division | Mail Stop Delivery

Street Address (Where you work) P.O. Boxes not accepted on this line.

City | State | Zip

Business Fax Number

Optional: DELIVERY ADDRESS (Home or P.O. Box). Enter address below only if your company WILL NOT accept delivery to the company address already listed. Address below is:
☐ A. Home ☐ B. Alternate Company Address

Post Office Box or Street Address

City | State | Zip

- **Please start/continue my FREE subscription to MacWEEK.**
☐ 01. Yes ☐ 02. No

1 What is your organization's primary business activity at this *entire* location?
(Select one only) Write Answer Here ➨

Non-Computer Related
01. Graphic Arts
02. Publishing
03. Advertising, Public Relations, Promotion
04. Digital Media Development
05. Entertainment/Broadcast
06. Commerical Printer
07. Service Bureau/ Pre-Press
08. Aerospace
09. Architecture, Engineering
10. Telecommunications
11. Government
12. Manufacturing
13. Education: College/ University/Trade
14. Education: High School/Elementary
15. Finance: Banking, Accounting, Insurance, Real Estate, Legal
16. Health, Medical
17. Non-Computer Retailer, Wholesaler, Distributor
18. Research and Development
19. Agriculture, Mining, Construction, Oil
20. Transportation, Utilities

Computer Related
22. Manufacturer (Computers, Software, Peripherals)
23. VAR, VAD, Systems/ Network Integrator
24. Retailer/Distributor
25. Systems House/Data Processing Service
26. Computer Consultant
27. Other Businesses and Services
99. Other_____ (please specify)

2 What is your job function?
(Select one only) Write Answer Here ➨

A. Networking/Data Communications
B. MIS/DP/Information Systems
C. Systems Engineering
D. Telecommunications
E. Graphic Arts/Design
F. Production/Pre-Press
G. Video Production
H. Audio Production
I. Communications/ Publishing/Public Relations/Advertising
J. Engineering/Architecture
K. Science/Research & Development
L. Education/Training/ Development
M. Manufacturing/ Operations/Production/ Quality Control
N. Administration/ Management/Personnel
O. Accounting/Finance/ Legal
P. Sales/Marketing
Q. Purchasing
R. Consulting
Z. Other_____ (please specify)

3 Which of the following brands of systems and/or applications software do you have installed at this *entire* location? (Check all that apply)

Operating Systems
☐ 01. System 7
☐ 02. System 6, 5 or earlier
☐ 03. Unix/Xenix/AUX/AIX
☐ 04. PowerOpen
☐ 05. Windows
☐ 06. NeXTStep
☐ 07. Solaris
☐ 08. OSF/Motif
☐ 09. Other_____ (please specify)

Network Operating Systems
☐ 11. Novell NetWare
☐ 12. Unix/NFS
☐ 13. LAN Manager
☐ 14. Banyan VINES
☐ 15. AppleShare
☐ 16. DEC PathWorks
☐ 17. Other_____ (please specify)

Groupware
☐ 19. Lotus Notes
☐ 20. Windows for Workgroups
☐ 21. FirstClass
☐ 22. Novell GroupWise
☐ 23. Apple Open Collaboration Environment (AOCE)
☐ 24. Other_____ (please specify)

Database Engines
☐ 26. Oracle
☐ 27. Sybase SQL Server
☐ 28. Ingres
☐ 29. Informix
☐ 30. 4D Server
☐ 31. DB2
☐ 32. Other_____ (please specify)

On-Line Services
☐ 34. America Online
☐ 35. Compuserve
☐ 36. e-World
☐ 37. Prodigy
☐ 38. Internet
☐ 39. Delphi
☐ 40. Genie

4 Please indicate the quantities of the computers currently installed and indicate the computers planned for purchase in one year at this *entire* location.

(Write in accurate quantities for all that apply)	Currently Installed (Quantity)	PLAN TO PURCHASE
Macintosh/Compatible		
Apple Power Mac 8100	1.	1. ☐
Apple Power Mac 7100	2.	2. ☐
Apple Power Mac 6100	3.	3. ☐
Radius Power Mac Compatible	4.	4. ☐
Power Computing Power Mac Compatible	5.	5. ☐
Daystar Power Mac Compatible	6.	6. ☐
Other Power Mac Compatible	7.	7. ☐
Macintosh Quadra	8.	8. ☐
Macintosh Centris	9.	9. ☐
Macintosh Performa	10.	10. ☐
Macintosh PowerBook	11.	11. ☐
Macintosh Duo	12.	12. ☐
Macintosh Other (II, LC, SE, etc...)	13.	13. ☐
Other Mac Compatible	14.	14. ☐
Other Desktops		
IBM/Compatible Desktop/Laptop/Notebook	15.	15. ☐
PowerPC (Non-Mac Compatible)	16.	16. ☐
Workstation (SPARC, MIPS, HP/Apollo, etc)	17.	17. ☐
Other Microcomputers	18.	18. ☐

USE NUMBERS ONLY

5A How many servers are installed at this *entire* location? (Use numbers only)

5B How many LANs are installed at this *entire* location? (Use numbers only)

5C How many Macintoshes are connected to the LANs indicated in Question 5B above? (Use numbers only)

6 If applicable: how many Macintoshes are sold, resold, or recommended in one year at this *entire* location?

A. Retailer: Number sold per year_____
B. Reseller: Number resold per year_____
C. Consultant: Number purchased by your clients through your firm's recommendation per year_____
D. Other: Number sold/resold/recommended per year_____
☐ E. Not Applicable

7A Which of the following Macintosh-related products do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Systems
☐ 01. Apple Macintoshes
☐ 02. Mac Compatibles
☐ 03. IBM Compatible Micros
☐ 04. Servers
☐ 05. Workstations
☐ 06. Minis/Mainframes
☐ 07. Newton PDA
☐ 08. Pen-Based Computers

Networking
☐ 10. LANs
☐ 11. WANs
☐ 12. Mac to PC Links
☐ 13. Mac to Mini/ Mainframe Links
☐ 14. Mac to Unix Workstation Links
☐ 15. Modems
☐ 16. Communication/ Network Software
☐ 17. Bridges/Routers/ Gateways
☐ 18. Hubs
☐ 19. NICS

Printers
☐ 21. Laser
☐ 22. Color Laser
☐ 23. InkJet
☐ 24. Color InkJet
☐ 25. Dye Sub
☐ 26. Thermal Wax
☐ 27. Plotter
☐ 28. Portable Printer

Image Input
☐ 30. Digital Camera
☐ 31. Flatbed Scanners
☐ 32. Handheld Scanners
☐ 33. Slide Scanners
☐ 34. Drum Scanners
☐ 35. Black/White Scanners

Displays
☐ 37. 14 inch
☐ 38. 15 inch
☐ 39. 17 inch
☐ 40. 21+ inch
☐ 41. LCD Projection Panel
☐ 42. Presentation Monitors

Peripherals
☐ 44. UPS
☐ 45. External Speakers
☐ 46. Input Devices
☐ 47. Video Deck
☐ 48. Image Setter

Storage
☐ 50. Photo CD
☐ 51. Magneto Optical
☐ 52. RAID
☐ 53. Hard Drive 1 Gig +
☐ 54. Hard Drive < 1 Gig

Add-In Boards
☐ 56. CD Recorder
☐ 57. Memory Boards
☐ 58. Display Boards
☐ 59. Video Digitizer Boards
☐ 60. Accelerator Boards
☐ 61. Sound Boards
☐ 62. MIDI
☐ 63. Video Capture/ Compression

99. ☐ None of the above

Signature_____

Title _____ Date ___/ ___/___

7B Which of the following systems and/or applications software do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Graphic Arts
☐ 01. Desktop Publishing
☐ 02. Electronic Publishing
☐ 03. Painting/Drawing Programs
☐ 04. Photo Retouching
☐ 05. Page Layout
☐ 06. Illustration Programs
☐ 07. Fonts
☐ 08. Pre-Press
☐ 09. Color Management
☐ 10. Digital Video
☐ 11. Other_____ (please specify)

Multimedia
☐ 13. Authoring Software
☐ 14. Video Editing
☐ 15. Sound Editing
☐ 16. Music Composition/ Editing
☐ 17. Animation
☐ 18. Clip Media (Sound and Art)
☐ 19. Other_____ (please specify)

Presentation Graphics
☐ 21. Presentation Software
☐ 22. Multimedia Presentations
☐ 23. Charting Programs
☐ 24. Other_____ (please specify)

Design/Engineering
☐ 26. CAD/CAM
☐ 27. 2/D - 3/D Modeling
☐ 28. Simulation
☐ 29. Other_____ (please specify)

Business Applications
☐ 31. Word Processing
☐ 32. Spreadsheets
☐ 33. Databases
☐ 34. Project Management
☐ 35. Accounting/Payroll
☐ 36. Groupware
☐ 37. Desktop Video Conf.
☐ 38. Document Management
☐ 39. Mapping/GIS
☐ 40. Pen-Based Applications
☐ 41. Other_____ (please specify)

Systems Management
☐ 43. Operating Systems
☐ 44. Utilities
☐ 45. Applications Development
☐ 46. CASE
☐ 47. Programming Languages
☐ 48. Compliers
☐ 49. SQL Applications
☐ 50. Client Servers Applications
☐ 51. Other_____ (please specify)

99. ☐ None of the above

8 If you indicated purchasing involvement for computers, computer products or services in Question 7A or Question 7B, for how many Macintoshes do you have this involvement? (Select one only) Write Answer Here ➨

01. 2000+
02. 1000-1999
03. 500-999
04. 100-499
05. 50-99
06. 20-49
07. 10-19
08. 5-9
09. 1-4
99. None

9 For what applications are the Macintoshes at your location used? (Check all that apply)

☐ 01. Graphic Arts
☐ 02. Presentation Graphics
☐ 03. Multimedia
☐ 04. Design/Engineering
☐ 05. Business Applications
☐ 06. Systems Management
☐ 99. Other_____ (please specify)

10 Over the course of one year, do you specify, recommend, buy, or approve the purchase of host systems, desktops, networking products, peripheral equipment and/or software worth: (Write number in box)

1. $5,000,000 or more
2. $2,500,000 to $4,999,999
3. $1,000,000 to $2,499,999
4. $600,000 to $999,999
5. $400,000 to $599,999
6. $200,000 to $399,999
7. $100,000 to $199,999
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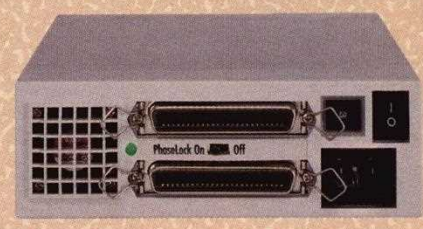

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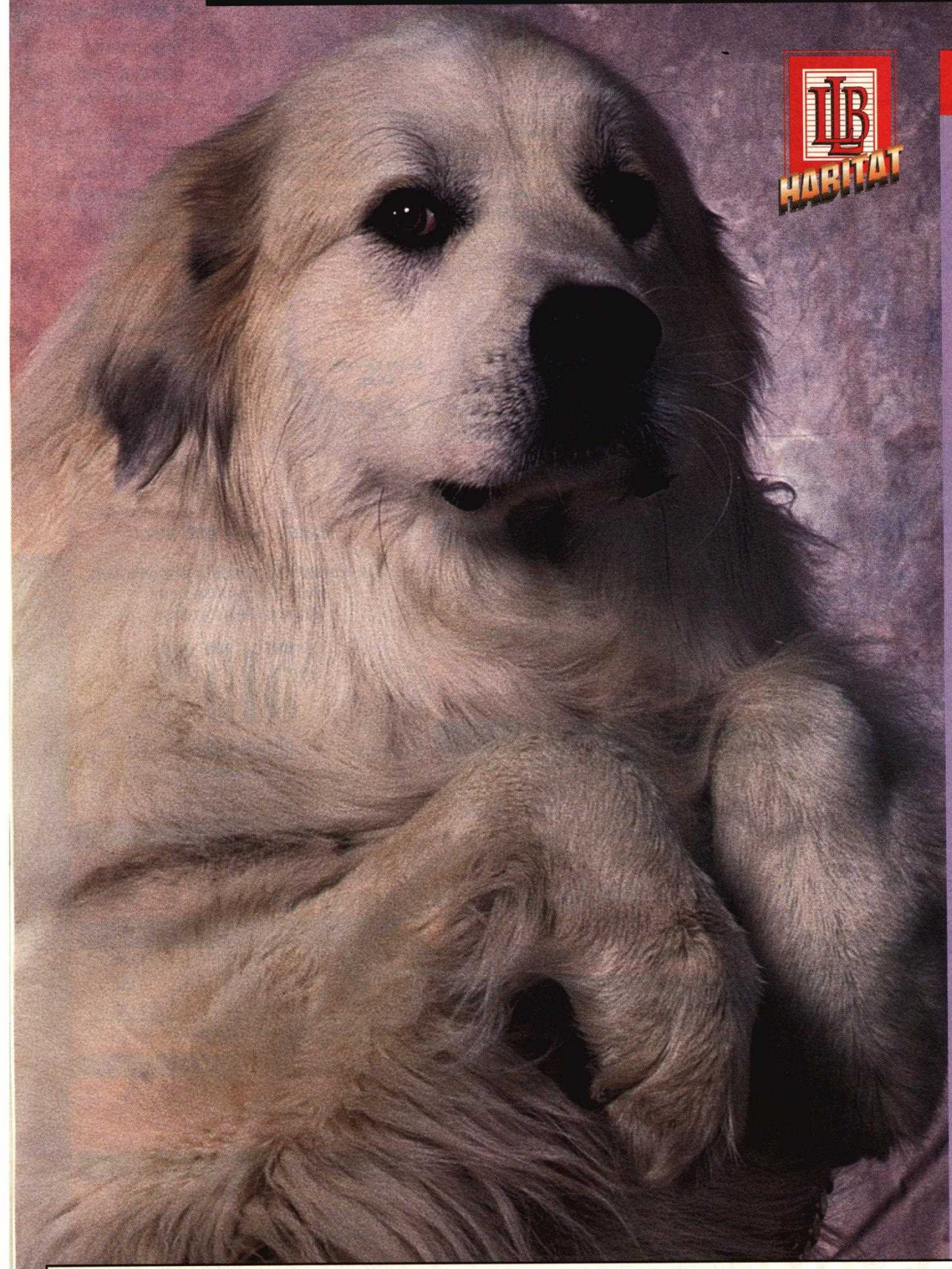

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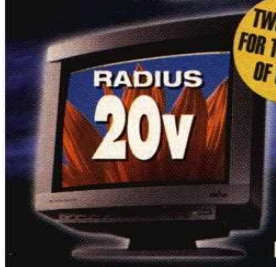

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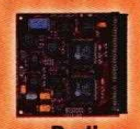

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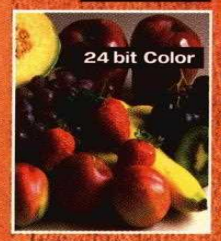

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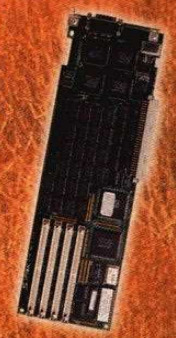

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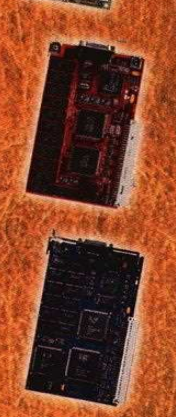

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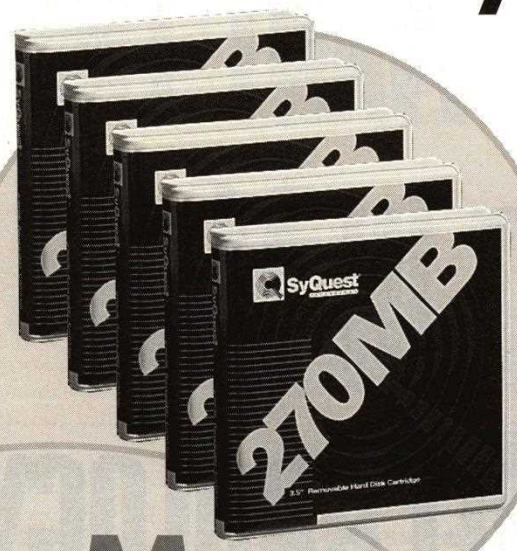

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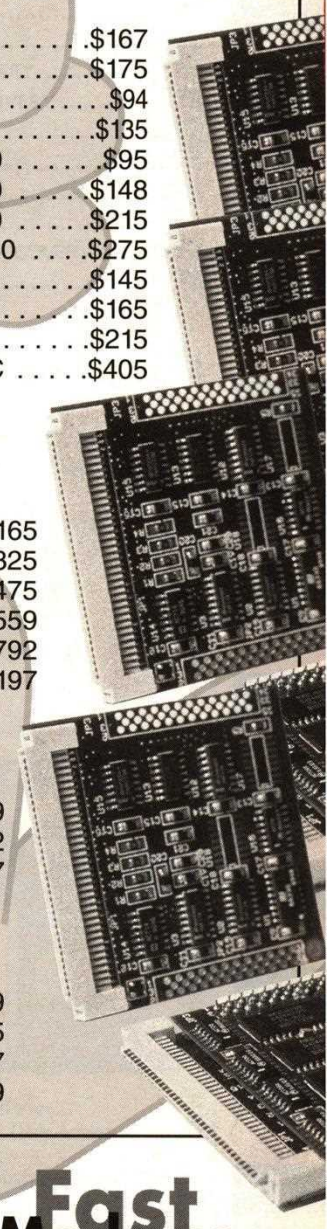

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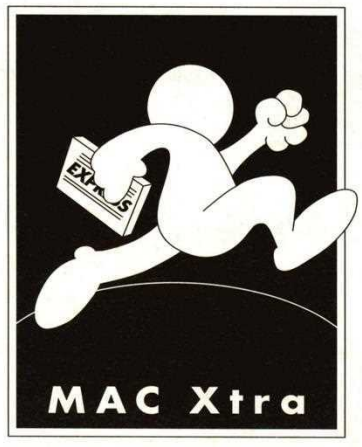

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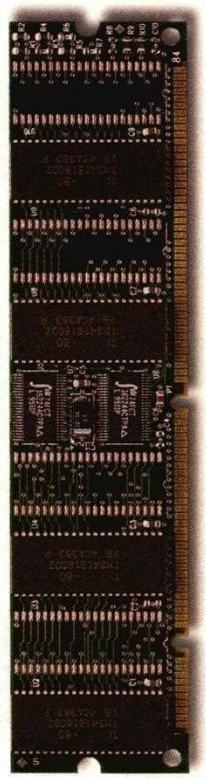

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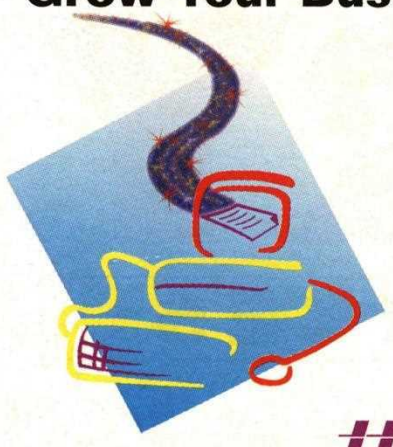

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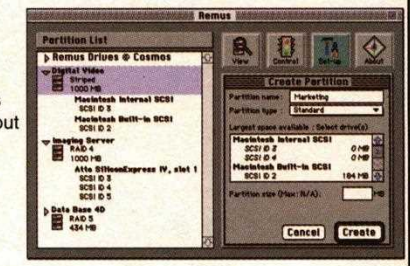

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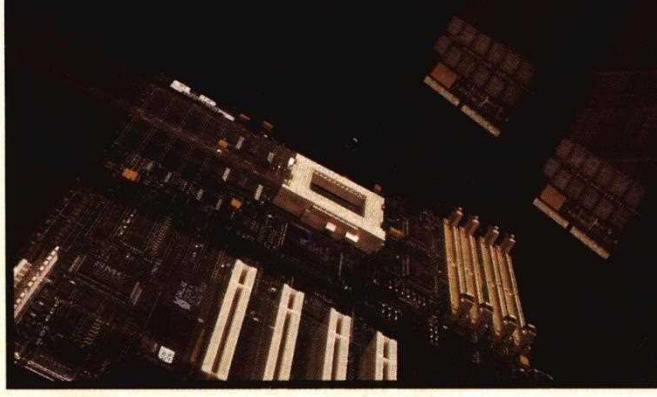

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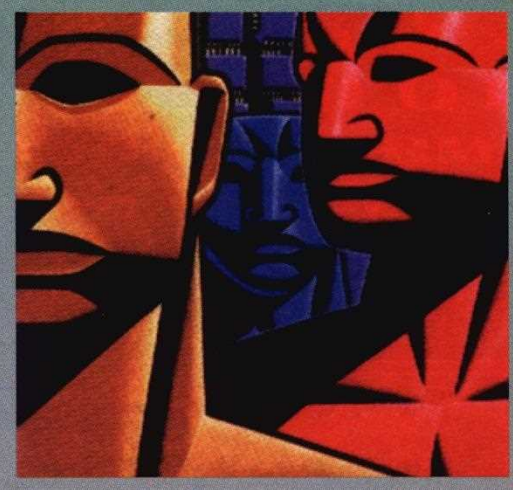

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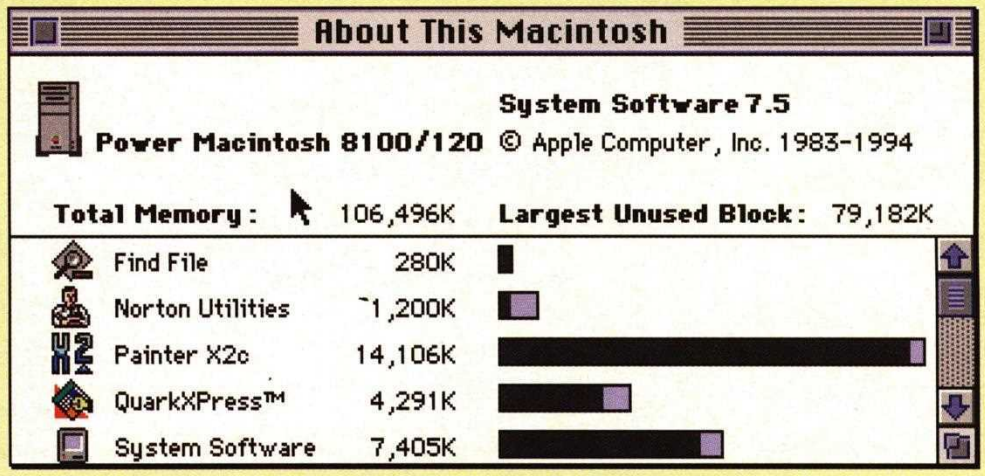

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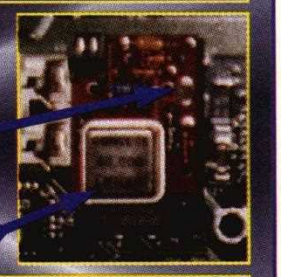

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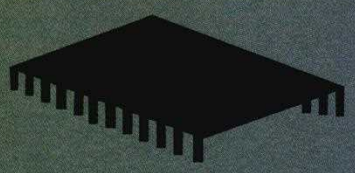

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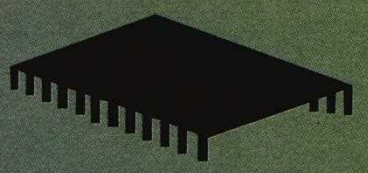

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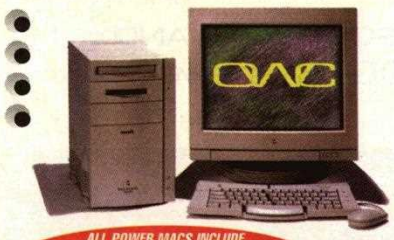

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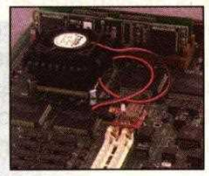

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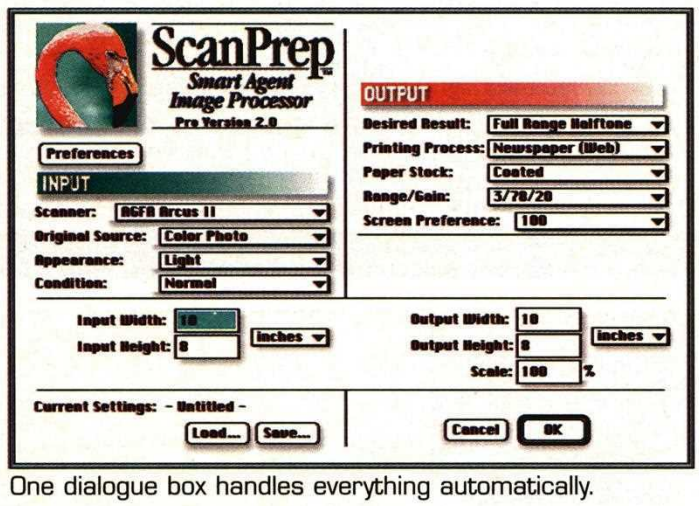

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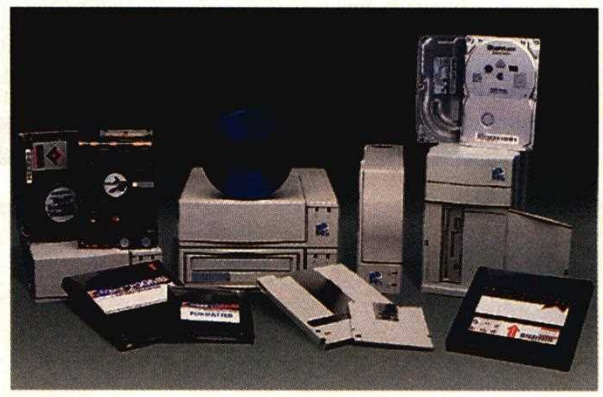

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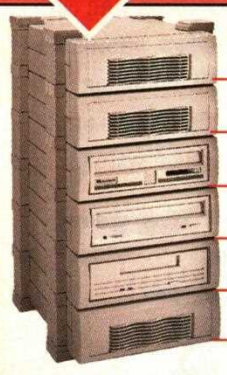

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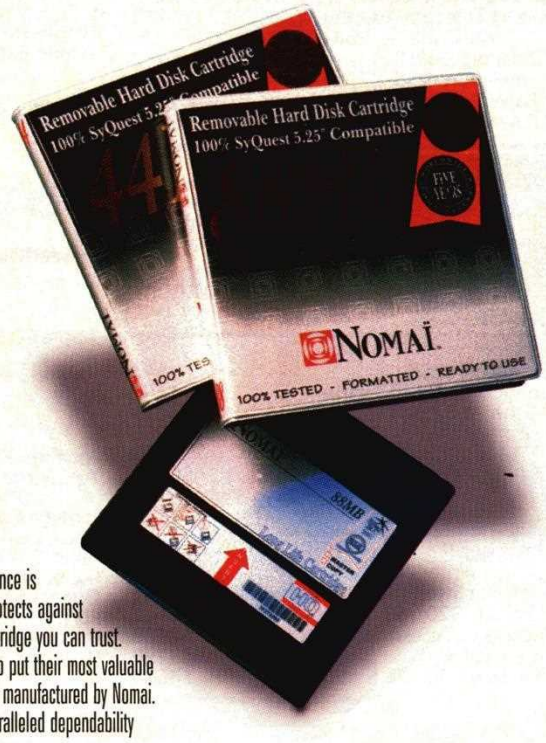

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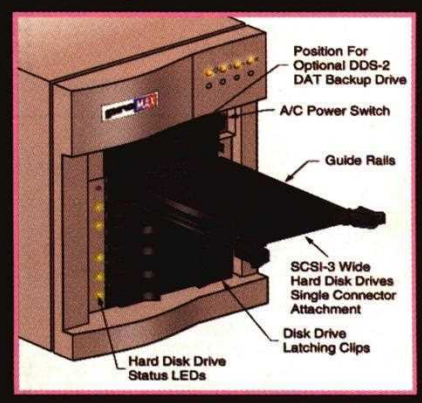
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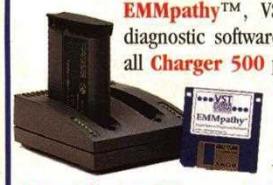

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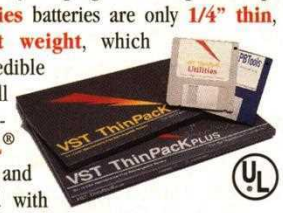

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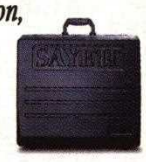

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MaxOptix-TII	1.0GB	5.25"	$1299	$1349	
MaxOptix-TIII	1.3GB	5.25"	$1989	$2039	
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Model	Internal	External	dsc Turbo	
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SyQuest 88C	$255	$295	$320	
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270MB	10ms	$140	$200	$225	
365MB	10ms	$155	$215	$240	
540MB	10ms	$195	$255	$280	
730MB	10ms	$215	$275	$300	
1.0GB	10ms	$509	$569	$594	
1.4GB	9.5ms	$659	$719	$744	
2.1GB	9.5ms	$879	$939	$964	
4.2GB	**9.5ms**	**$1369**	**$1429**	**$1454**	SALE

IBM	Speed	Internal	External	dsc Turbo	
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Seagate	Speed	Internal	External	dsc Turbo	
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2.4GB	Hawk 2, 9ms	$839	$899	$949	
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DSC 12000C w/trans	1200 dpi flatbed w/PS LE	$949	
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Agfa Arcus II w/trans	1200 dpi flatbed	$2579	
ScanMaker III	1200 dpi flatbed	$2449	
ScanMaker IIHR	**600 dpi flatbed**	**$828**	SALE
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Sony 20SE	20in, .25mm, 1280x1024	$1889	
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Apple 15	**15in, .25mm, 1024x768**	**$399**	SALE
Apple 17	17in, .26mm, 1024x768	$799	

Video Cards

Video Cards	Resolution	Price	
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Radius Thunder 24 Series IV	**1024x768**	**$799**	SALE
Radius Spectrum Power, 1152	1152x870	$1138	
Radius Thunder II Series IV GX 1152	1152x870	$1819	
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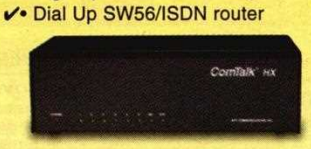

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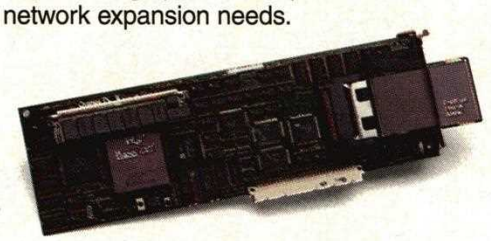

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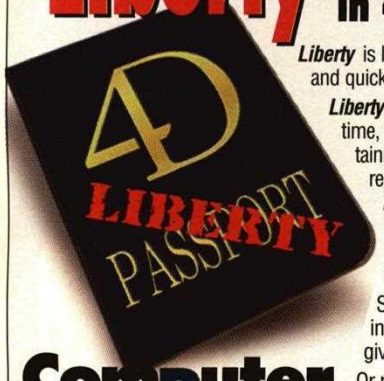

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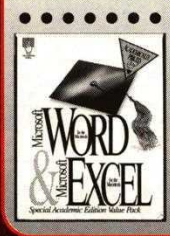

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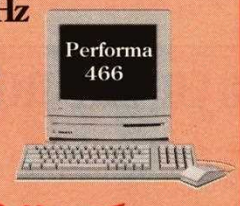

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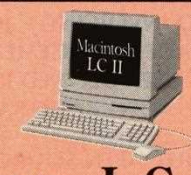

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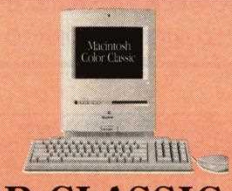

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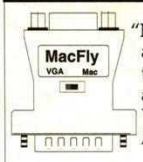

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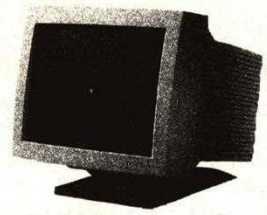

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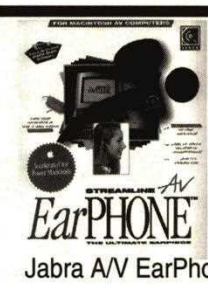

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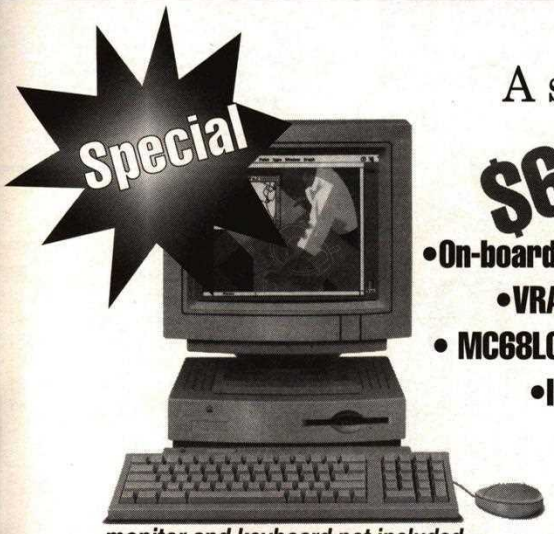

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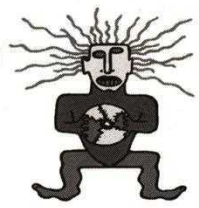

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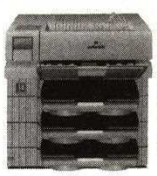

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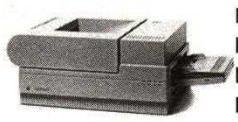

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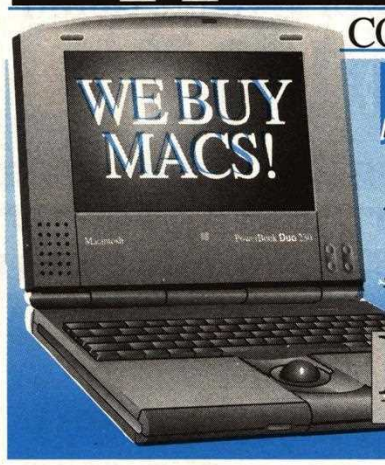

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Viper

From Page 1

digital video users significant performance improvements. According to sources, the Fast SCSI-2 mechanism will have an uninterrupted sustained data transfer rate of 3.5 to 5 Mbytes per second, more than double the speed of SyQuest's 270-Mbyte SQ3270 mechanism. It will offer an average seek time of 14 milliseconds, comparable to the SQ3270.

"Just the increased capacity alone will attract the high-end user," said Geoff Westerfield, hardware manager at ComputerWare of Palo Alto, Calif. He said users will prefer to store mission-critical data using familiar Winchester technology rather than the more recent Zip cartridges. "It will be popular."

The stylish drive will offer a pair of high-performance 50-pin SCSI ports, sources said, and use a small, external AC power adapter.

With the Viper, Iomega of Roy, Utah, reportedly will address a number of user criticisms of its entry-level Zip drive. The unit is designed to sit horizontally on the desktop, rather than vertically. It has rubber feet and can be stacked.

Sources said the new drive will also add a rear-panel on-off switch and a push-button SCSI-address switch. Users of the Zip drive can select between only two identification numbers.

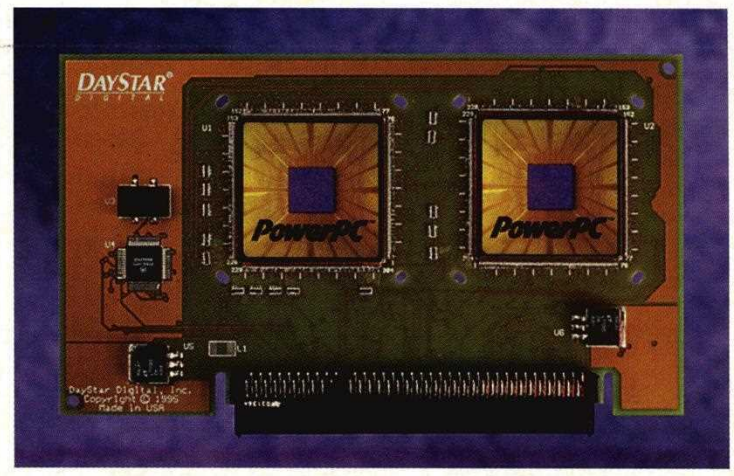
According to sources, the shape of the Viper cartridge is easier to handle and insert than SyQuest-compatible models. Unlike SyQuest's square cartridge design, one side of the Viper disk will have a curved edge and metal shutter. The Viper drive and media will not be compatible with Bernoulli, Zip or SyQuest formats.

As it did with the Zip, Iomega reportedly will bundle the drive with formatting and backup software. The drive will automatically mount cartridges when inserted, sources said.

"Viper will give SyQuest fits," said analyst Bill Frank, president of Augur Visions Inc. of Los Altos, Calif. He said, however, that Iomega's current problems meeting the heavy demand for Zip drives and media may make users approach the Viper with caution.

"It's very aggressive pricing, but it's one thing to set a price and another to actually build them in quantity," Frank said.

Iomega acknowledged it is developing a drive with high capacity and performance but would not comment on product details. □



DayStar's nPower card will add up to four PowerPC 604 chips to the company's forthcoming Genesis MP Mac clones. Sources said DayStar may offer a version of nPower that can be added to any Tsunami-class Mac.

DayStar

From Page 1

toshop support "at a fundamental level" is a "logical conclusion."

Developers said they were confident that multiprocessor Macs — whether from DayStar, Apple or other vendors — will find a receptive market.

"For somebody who needs that type of power, after a while adding RAM and accelerator cards is not sufficient," said Keith McGregor, president of Roswell, Ga.-based BeInfinite Inc., which this fall will release Adobe Illustrator plug-ins that use multiprocessing.

Adobe's Lamkin said, "Users will go where the horsepower is."

Apple plans to incorporate DayStar-developed system-level libraries for using multiple CPUs early next year. This endorsement is key, developers said, adding that another advantage to the API is that they won't have to ship separate versions of their applications.

"You can design your application using threading, so it will work on a single-processor machine and then transparently get faster on multiprocessing machines," said Randy Ubillos, vice president of video products at San Francisco-based Macromedia, which plans to implement multiprocessing in a future product.

Several companies said they plan to release multiprocessor-capable versions of their applications by September, when DayStar will ship its Genesis MP Mac clones with two or four PowerPC 604 chips. Those ready to take advantage of Genesis MP when it ships or shortly thereafter include Fauve Software Inc.'s xRes, Be-Infinite's Infinite FX, Leaf Systems Inc.'s CatchLight digital camera software, Ray Dream Inc.'s Designer, Kodak ColorMatch and Kodak Color Management System and Strata Inc.'s StudioPro. QuarkXPosure, due late this year, will also have multiprocessor support, Denver-based Quark said.

Adding multiprocessing is relatively simple, according to several developers. "With prior acceleration methods, like using [digital signal processors] or proprietary processors, you had to do a whole bunch of coding; this basically just lets you revise your existing code," said Macromedia's Ubillos. Others said it would be more arduous.

However, Steve Guttman, vice president of marketing at Aptos, Calif.-based Fractal Design Corp., said, "For our applications it would take quite a bit of effort, so we want to see what the overall acceptance is and what kind of position Apple takes."

Perry Kivolowitz, site manager for Madison, Wis.-based Elastic Reality, a subsidiary of Scitex Corp., said, "Multiple-processor debugging is the area that concerns me most." He said he welcomes news that Metrowerks Inc. of St. Laurent, Quebec, will provide debugging tools.

Metrowerks said it will revise CodeWarrior by September to support DayStar's API, although it declined to specify a delivery date for debugging tools. A future version of CodeWarrior will be able to use multiple processors.

Although Symantec Corp. of Bedford, Mass., declined to specify its plans for multiprocessing tools, Development Manager Doug Knowlen said, "We consider it as essential to support this as OpenDoc or any other emerging technology." □

Now

From Page 1

new stand-alone utility. Sources said QuickNote will let users create notes, appointments, calls and to-dos that are automatically integrated with the user's calendar and address-book files, even when the main programs are not open. Each note will provide name, company and phone-number fields and will automatically fill in listings already stored in the default Now Contact file.

QuickNote will be able to dial phone numbers, keep multiple notes open at a time, and minimize and resize each note.

Sources said Now Contact 3.5 will gain a free-form, resizable notes field displayed in the Detail view. Users will be able to drag and drop text of any length into this field, then drag selected information into other contact fields. Increased drag-and-drop support will also let users drag any document onto a contact to attach it, or drag a contact into another application for simple export or mail merge. QuickContact, the control panel providing a mini-list of contacts and searching capabilities, will remain unchanged.

In Now Up-to-Date 3.5, a new split-screen option provided in all views will show the active day's to-dos in a list format, sources said.

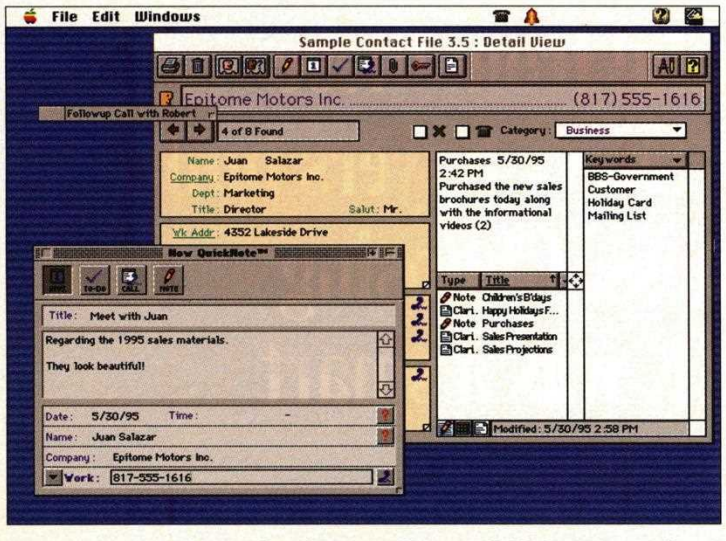
Group-scheduling improvements include the capability to add unique event descriptions and attendee lists for repeating events, the addition of a meeting notice in-basket in the Now Up-to-Date tool bar, automatic time-blocking for private events, and the capability to display public events from categories not selected in the current set.

The Reminder control panel, which provides Now Up-to-Date alarms and a menu bar list of events for the current day, will be renamed QuickDay and will get a minor make-over to distinguish events from to-dos more clearly.

According to sources, Now will simultaneously ship a set of tools called Now Synchronize that will allow users to keep the Datebook and Names files on a Newton PDA current with Now's Mac-based personal information managers. The $49.95 utilities — one on the Mac side, one on the Newton — will use the new Newton communications libraries rather than the Newton Connection Kit to control communications between the two platforms.

Now will reportedly also shed more light on its Windows plans for Contact and Up-to-Date. Later this year, sources said, the company will ship the two PIMs as a single Windows-based package. At the same time, Now will deliver new versions of its Macintosh-based Public Event and Public Contact servers. Windows users will be able to access and share files through the new servers or via Windows file sharing. Windows-based servers are in the works, but sources said the company does not plan to deliver them with the initial Windows release.

Now declined to comment. □



Now Contact 3.5 will gain a free-form resizable notes field that supports drag-and-drop. QuickNote will let users create notes, appointments, calls and to-dos that are automatically integrated with their Contact and Up-to-Date files.

MacWrite Pro 1.5 now $49

Claris Corp. last week lowered pricing on its MacWrite Pro word processing program. The program now carries a $49 price tag.

While it was previously $249, MacWrite Pro 1.5 was recently offered for $99 via an on-line promotion. Claris said users of MacWrite II and competing products can upgrade for $39; the upgrade from Version 1.0 costs $29.

MacWrite Pro 1.5 was released in January 1994; it installs as either a 680x0 or Power Mac version.

Claris Corp. of Santa Clara, Calif., can be reached at (408) 727-8227 or (800) 325-2747; fax (408) 987-3932. □

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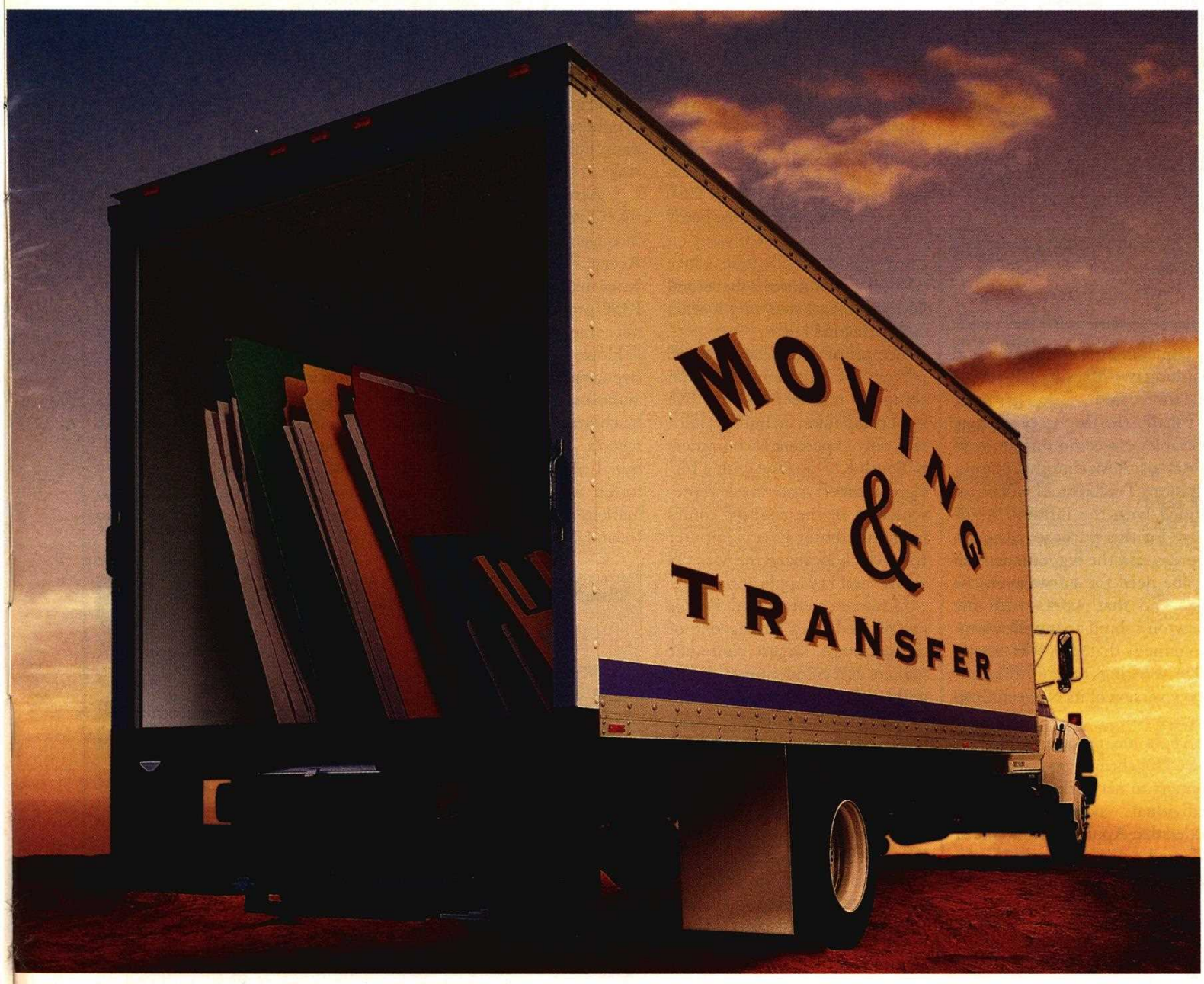

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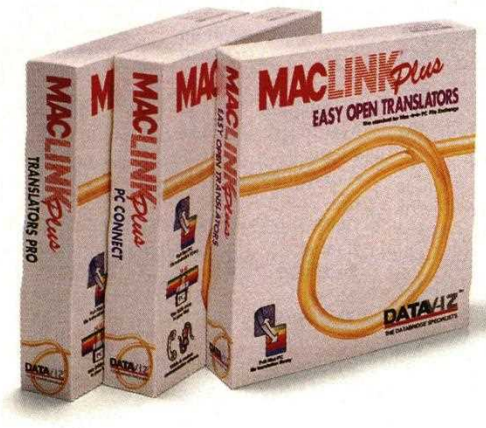

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APPLE RELEASES PB 550C IN JAPAN

Apple released in Japan last week the PowerBook 550c. There are currently no plans to make the new portable available in the United States.

As previously reported (see MacWEEK, May 1, Page 1), the 550c is like the 540c, adding a 10.4-inch color display, an FPU (floating-point unit), 12 Mbytes of memory, a 750-Mbyte hard disk and an all-black case. Apple said pricing on the new model will be between $4,850 and $5,550.

Infrared

From Page 1

network access, sources said. A PowerBook placed within two meters of the pod and pointed toward it will reportedly be able to connect to the network. The user need only open the Network control panel and select "IRTalk" to configure the PowerBook. Performance of the connection is expected to be 115 Kbps, nearly that of LocalTalk.

The second way Apple expects users to utilize the new infrared technology is in a point-to-point fashion, between two infrared-equipped PowerBooks, sources said. An application called Apple IR File Exchange will be included with the new Macs; it can be used to "beam" files between two portables without first establishing a network connection.

Apple has spent considerable time on the interface for IR File Exchange, making it "as simple as launching the application and pointing two Macs at each other," one source said.

Finally, the IR port of the new portables can communicate with Newtons. A Macintosh Communications Toolbox tool will be included with the infrared hardware for this purpose, although sources said the bigger issue will be the need for software on the Mac end that works with the Newton's built-in applications. To remedy that, Apple is reportedly working on an infrared-savvy version of its Newton Connection Kit.

Apple has reportedly also allowed for cheaper pods that don't connect to networks but do link individual systems. Sources added that Apple's current line of infrared-equipped systems, the 630-series Macs, will not work with PowerBook IR.

Apple declined to comment. □

Clones

From Page 1

performance. All three companies are said to be interested primarily in Power Computing's upcoming line of PCI Macs, which are expected to include six- and three-slot boxes offering both PowerPC 601 and 604 processors. However, depending on availability of components, all three vendors may choose to start with NuBus-based machines.

▶ **Goldstar.** Goldstar is expected to join Pioneer Electronic Corp. as a Mac clone maker in the Far East. The Seoul, South Korea-based company will focus exclusively on the computer market in its native country. South Korea is the second largest personal computer market in Asia, behind Japan.

Because of trade restrictions, 60 percent of the South Korean computer market is held by five local companies, including Goldstar; only 13 percent of computers in South Korea come with a foreign moniker. Apple's sole representation in the country comes from distributor Elex Computer Inc., which localized the Mac OS and several key applications.

However, sources said, Elex is not pleased with having one of the country's largest computer makers as a competitor and may withhold the localization work it has done. This will reportedly force Goldstar to do its own version of the OS, which could delay the debut of Goldstar-labeled clones.

▶ **Olivetti.** Ivrea, Italy-based Olivetti sold $5.4 billion worth of Intel-based PCs in 1994, 80 percent of which came from European sales into the business and consumer markets. While declining to comment on a possible licensing deal, the company considered Apple to be a major competitor, until recently, an Olivetti spokesman said.

Sources say Olivetti is expected to offer its Mac clones through retail channels in England, Germany, France and Italy. Olivetti's relationship with Power Computing goes beyond customer and supplier. The European company holds the largest minority stake in the U.S. clone maker.

▶ **Acorn.** Another company that Olivetti has a financial stake in is Cambridge, England-based Acorn. The $81 million company bases its systems on the ARM RISC processor; those systems are not compatible with PCs or Macs.

However, as a result of an exclusive arrangement with education authorities, Acorn systems are the machines of choice in England's schools. This has reportedly frustrated Apple, which has been forced to focus on the education markets in Scotland and Northern Ireland. However, with the Acorn deal, Apple hopes to gain access to this lucrative market.

▶ **Power Computing.** The linchpin to expanding the international presence of Mac clones, Power Computing is already gearing up to fill the expected demand from its new customers, sources said.

Despite problems filling current orders for its clones, sources said the company has taken a decisive stand on its nascent OEM business and will not compromise its domestic supply to fill OEM orders.

In fact, U.S. customers may get an additional, long-term boon from Power Computing's diversification. The company reportedly anticipates that it will be able to lower prices of its U.S. products as it builds up its overall ship rates with international clone sales.

Apple, Power Computing, Acorn and Olivetti declined to comment; Goldstar was unavailable for comment. □

David Morgenstern contributed to this report.

Strata

From Page 1

tension that will establish a standard way to handle 3-D data and interactions (see MacWEEK, Feb. 6, Page 1); it includes an API for hardware acceleration and a 3-D metafile format.

According to Gary Bringhurst, chief technical officer at Strata, hardware acceleration from PCI and NuBus cards developed for QuickDraw 3D will enable StudioPro on a Mac to achieve "midlevel SGI-type performance, depending on the [hardware] vendor." Hardware support will also allow real-time texture-mapping screen redraws at 30 frames per second, or broadcast quality, he said.

StudioPro's capability to read and write 3D metafile format will let users cut and paste fully rendered 3-D objects with textures, light sources and other data, between the program and other 3-D or 2-D applications, he said.

"This is the first program where I've been able to drag and drop objects between files," said alpha user Kyle Maxwell, multimedia director at Morpheus Interactive of St. George, Utah. "QuickDraw 3D will be phenomenally useful when it's supported across the board by all programs." Maxwell added, "StudioPro makes redraws easily 20 to 30 times faster."

StudioPro 1.75 will also take advantage of DayStar's multiprocessing architecture. Multiprocessor support will speed processor-intensive functions such as modeling and rendering by the number of processors available. For example, a system with two processors, such as DayStar's forthcoming Genesis MP clone, which has two 120-MHz PowerPC 604 processors, will double StudioPro's speed, Strata and DayStar said.

With QuickTime VR, users will be able to construct a 3-D object, view it from any point within the model and then output the entire scene as a 360-degree panorama in a PICT file.

StudioPro users will have two avenues to the World-Wide Web. Through QuickDraw 3D's metafile format they will be able to preserve custom information such as URL (universal resource locator) addresses, which could launch a future QuickDraw 3D-compatible Web browser to the specified location. StudioPro also enables users to output VRML files to create navigable, 360-degree environments on a Web page.

StudioPro 1.75 will require a Power Mac and System 7.5. Upgrades will be $149 from Version 1.0 and $99 for Version 1.5 or higher.

Strata Inc. of St. George, Utah, is at (801) 628-5218 or (800) 678-7282; fax (801) 628-9756. □

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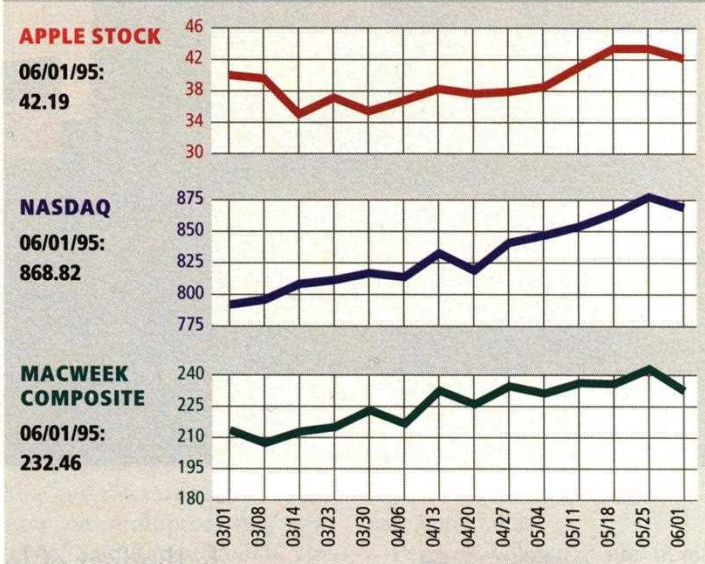

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CE Software	2.88	-2.13
Diehl Graphsoft	4.19	-1.47
General Magic	11.00	-4.35
Macromedia	34.56	-10.23
Microsoft	84.13	-5.74
Novell	19.44	-5.76
Oracle	35.63	-3.72
Saber	7.75	12.73
Symantec	22.94	-4.43
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Conner	12.88	-2.83
Iomega	14.63	-0.85
Maxtor	5.75	4.55
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Asanté	3.88	0.00
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IBM	94.38	-2.33
Intel	114.75	-2.34
Motorola	61.13	-1.41
SGI	39.25	2.61
NASDAQ	868.82	-0.97

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JUNE 26
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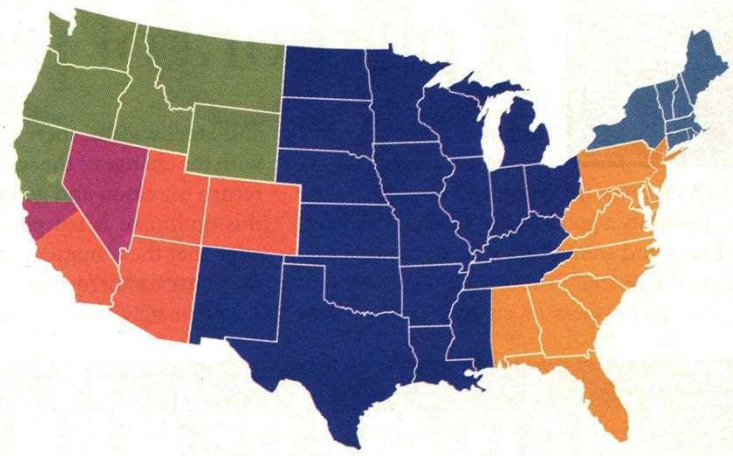

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[1] Includes New Brunswick, Newfoundland, Prince Edward Island, Quebec, Manitoba and Ontario, Canada
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[4] Includes San Francisco Bay Area south of the San Mateo Bridge to San Luis Obispo
[5] Includes Southern California south of San Luis Obispo, Arizona, Utah and Colorado

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A plethora of publishing promises

Political trends, like fashions, come and go. In both cases, this perpetual impermanence is probably a good thing. This way, at least, if you find something distasteful about either the general drift of the collective political consciousness or current skirt lengths and lapel widths, there's always hope that with the change of the season there will be a return to reason and good taste. Of course, this optimism is tempered by the knowledge that these matters can take a turn for the worse tomorrow, as well.

Fortunately, there are always a few things you can take to the bank with confidence. Among these is publishing's position as one of the most important Apple markets. The open-armed acceptance of the Internet and other means of paperless information distribution have only underlined the importance of the once humble document.

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Publishing forced out more mundane concerns from the Knife's field of vision last week as he tore himself away from the fertile Apple field of rumors long enough to sort through incoming information about a couple of Adobe's flagship products.

Fully illustrated

The new Illustrator 6.0 is on track and will be available this summer as expected. Sources seem pleased with the improvements, including enhanced Drag and Drop support. And its designers hope the more Photoshop-like interface will contribute to its ongoing effort to make Illustrator more accessible to a wider audience.

PageMaker 6.0 is also scheduled to be introduced this summer, probably at Macworld Expo in Boston. This is the complete rewrite that some desktop publishing types have been anticipating since Adobe took possession of the product. And, as expected, PageMaker will emerge in 6.0 clothing clearly showing the influence of its chief Colorado competitor despite the fact that it is Adobe that's running the show. As a result, PageMaker 6 users will soon become quite conversant in QuarkXPress-style frames and at the same time need not affect shyness when the topic of conversation turns, as it inevitably does in this crowd, to industrial-strength color-printing issues.

Buy one

But paper printing, no matter how slick or important to Apple's financial health, doesn't create the same adrenaline rush among the technologically fashion-conscious that surfing the Net does. And given that electronic communications is more than a trend, Apple is playing it accordingly, developing technologies where necessary, but sometimes just buying them.

MailShare, the consummate SMTP/POP server written by Glenn Anderson and made available without charge, is an example of the latter. It's so good, in fact, that Apple has purchased the rights. Rumor has it that users who purchase an Apple Internet Server may soon receive MailShare, along with the level of support for which Apple is so well-known.

Update — not

You've seen System 7.5.2 that comes with the PCI Macs and you want its new features. You're the kind of customer Apple wants to keep happy, and it's for you that Apple is creating what looks and smells like System 7.5 Update 2.0 but could easily be called something else. The feature list includes the new 680x0 emulator, the native Resource Manager, QuickDraw 3D and support for really large volumes. And in a masterstroke of innovation, the package will include a single control panel for video and sound settings. □

Onsale may offer both signed O.J. Simpson photos and new and refurbished Macs on the Web at http://www.onsale.com, but a MacWEEK mug can only be attained if you have a tip and are willing to give it up to the Knife at (415) 243-3544, fax (415) 243-3651, Internet (mac_the_knife@macweek.ziff.com), AppleLink (MacWEEK) or CompuServe/ZiffNet/Mac.

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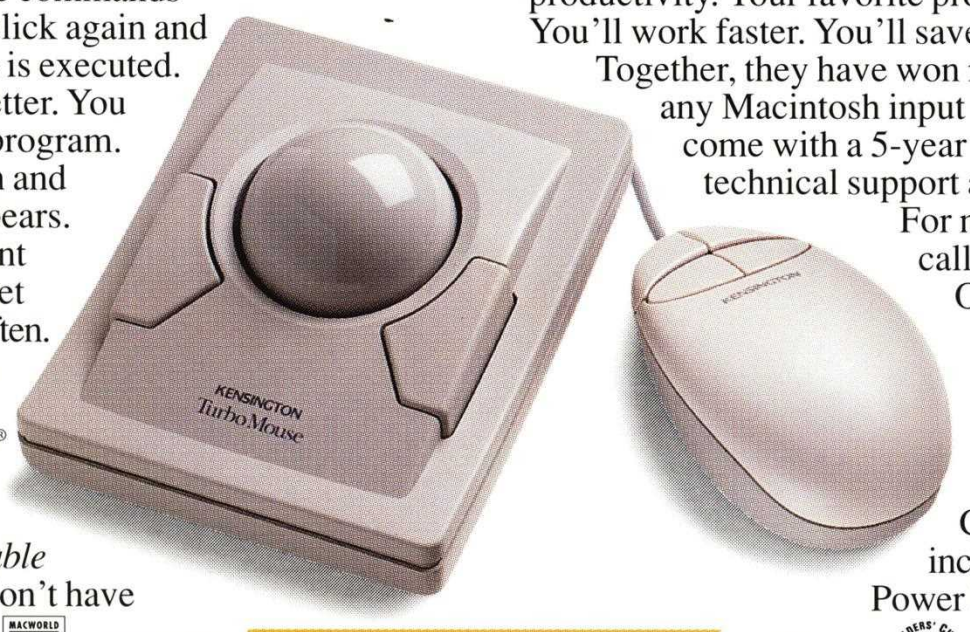

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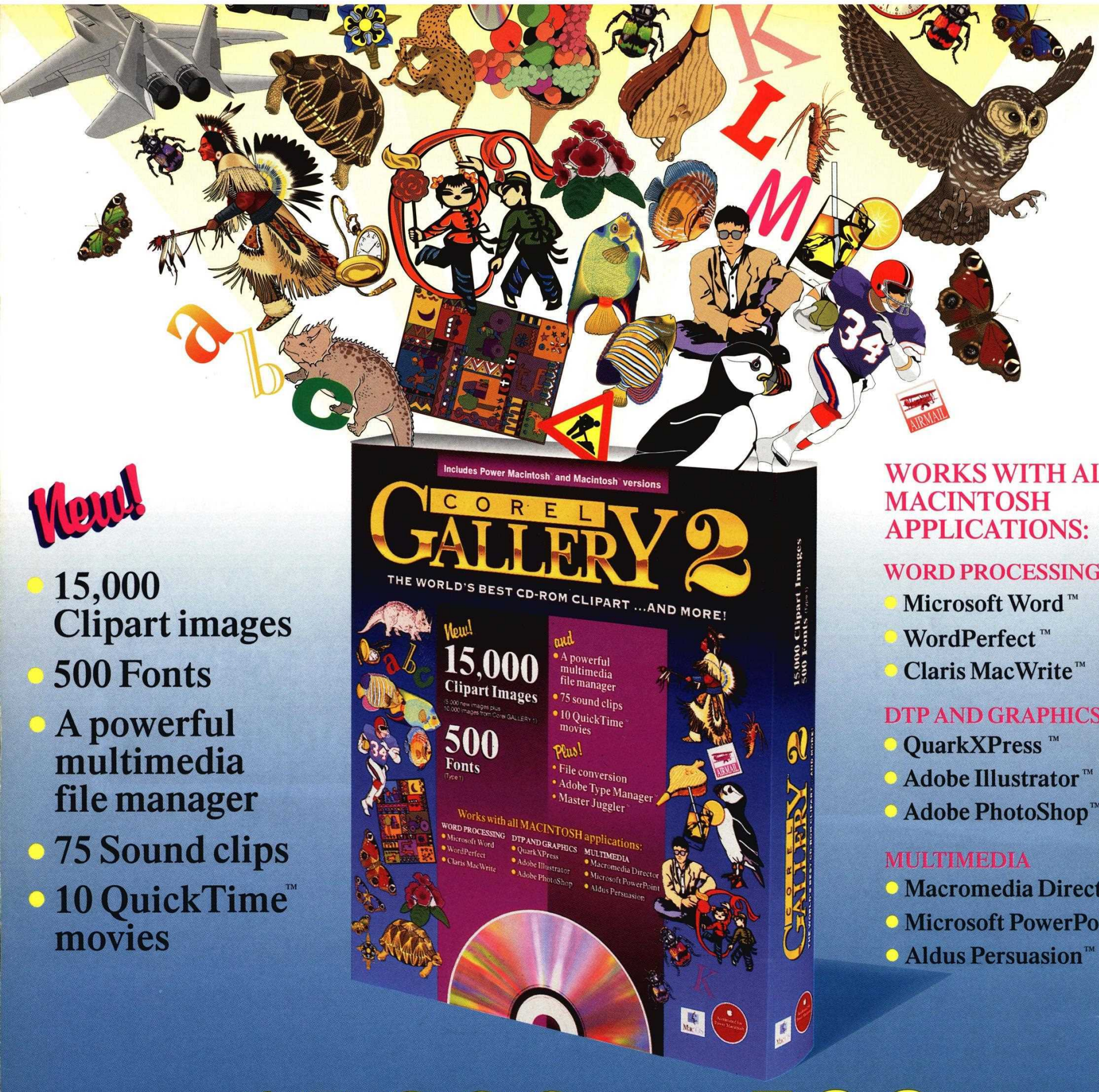

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